

# THE AMERICAN FARMER:

DEVOTED TO  
**Agriculture, Horticulture and Rural Economy.**

[ESTABLISHED 1819.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT  
"AGRICOLAS." *Virg.*

Fifth Series.

BALTIMORE, FEBRUARY, 1861.

Vol. II.—No. 8.

## FEBRUARY.

"Bland as the morning breath of June  
The South-west breezes play;  
And, through its haze, the winter noon  
Seems warm as summer's day.  
The snow-plumed Angel of the North  
Has dropped his icy spear:  
Again the mossy earth looks forth,  
Again the streams gush clear."

In all our winter time and especially in this month, we have now and then days when the cold and boisterous North wind moderates his tone, and the "sweet South" breathes gently as on a summer's day. They are Angels of Hope, reminding us of the spring time and the new life that shall come again from the death around us.

## WORK FOR THE MONTH.

### THE CROPS OF THE COMING YEAR.

It is incumbent on us to determine at an early period the crops we will plant the coming season and allot to each its portion of land. Due discretion in "pitching" a crop is of great importance, that the extremes be avoided of over-cropping on the one hand or on the other of laying out so small a year's work as will not sufficiently task the energies of the working force. Young farmers usually err, we think, in undertaking more than they can do well. There is great prudence in keeping your work strictly within your ability to perform in a thorough and masterly manner—to plough deeply, to manure liberally, and to cultivate with plough and hoe to the full extent of its necessities. A young farmer should take advice of some well judging neighbour as to the extent of surface he should cultivate with a given force of hands and team, and then make

some allowance for his own want of experience in the execution of whatever plans he may lay down.

### MANURES.

Use all the means at your command to increase the quantity of manure. Feed and bed all stock liberally, and gather up and economise every thing whatever that may furnish food for growing plants. A compost heap should be formed, under cover if you can, where ashes, soap-suds, refuse from the kitchen should be gathered and mixed with rich earth, soda, &c. This compost will be useful for the garden or for manuring crops in the hill. If more be wanted for garden or other crops, haul from the stables to some convenient point and mix well with swamp muck, leaf mould or other material, and let it stand until it begins to ferment, when it should be turned and further mixed. All manure, which it is desired to use for spring crops without composting, may be hauled at any time you find it convenient, and thrown broadcast where wanted.

### FENCING.

Prepare at once all material for fencing, and get it in place when you can. Make necessary gates and repair old ones. All old fences should of course be inspected and repaired. Outside fences should especially be kept in the best order for the sake of good neighbourhood.

### SOWING CLOVER SEED.

Many well judging farmers prefer to sow clover seed this month, that with the freezing and thawing it may get a sufficient covering without the use of harrow or brush. We commend to your notice the article in January number on the preparation of clover seed. A full gallon of seed to each acre should be sown.

## OUT-BUILDINGS

Of all sorts should be inspected and put in good repair.

## WAGONS, TOOLS, &amp;C.

All these should be put in complete repair. Do not overlook the value of a good coating of paint on the wood work of these. Cleanse thoroughly and oil harness of every description. Provide plough lines enough for the season's work. Also castings for ploughs; hoes and other necessary implements.

## THE TOBACCO CROP.

Prepare for market with all despatch. Provide material for hogsheads and get it in readiness, that they may be set up when wanted without delay.

## TOBACCO BEDS.

Sow these whenever the ground may be in good working order.

## HORSES AND OXEN.

As spring approaches increase the allowance of grain to your horses that they may be in good order for their labours. Oxen should be well cared for, too. It is better at all times to feed them apart from the other stock, that they may be sure, when at work, of getting their full allowance, and lest, when idle, they drive off the others.

## COWS.

Cows should have extra care as their time of calving approaches. Young cows with their first calves should have good slops, with turnips or beets, to make their bags spring well.

## BREEDING SOWS.

Attend well to these, and be not over fearful of having them too fat. The quality of their pigs will depend very much on the quality and quantity of the sows' food through the winter.

## SHEEP.

The ewes of course will have your especial care as the season of lambing approaches. A little grain and roots of any sort will be acceptable to them.

## SALT FOR STOCK.

Let stock of all sorts have salt at least once a week. The best method of salting for all stock is to give them a lump of rock salt to lick at pleasure.

## LIMING.

It is a favourable time to haul and spread lime when the ground is frozen.

**DESTROYING VERMIN ON COLTS.**—Take flax seed (linseed) oil, and rub the harboring places *thoroughly* to the skin, and the vermin will swell up, die, and drop off.—*Ex.*

## THE VEGETABLE GARDEN.

## FEBRUARY.

## SEEDS IN HOT BEDS.

Cabbage seeds of several sorts may be sown now in the hot beds to keep up a succession through the season. *Tomato* seed should all be sown. *Egg Plant* seed, *Cauliflower*, *Lettuce*, *Celery* for early crop may be sown now in hot bed. A few Radish seed should be scattered in the bed.

## GREEN PEAS.

If not already done, sow an early variety of Peas whenever the ground may be in good working order.

## PARSNIPS, CARROTS, BEETS.

Seeds of these may be sown whenever the ground can be got in order.

## POTATOES.

These for early crop should be planted, and well covered with coarse litter.

## MANURE.

Do not fail to have prepared in good time, and that is the earliest time, an abundant supply of good compost for all garden crops. Stable manure should be the basis, and with it the waste from kitchen, soap suds, old turf, leaf mould, any thing which will make manure, the greater variety the better. There should be stable manure enough to produce considerable heat and cause the whole to be pretty well decomposed when wanted in spring.

## THE GREEN HOUSE.

The plants this month will assume a new appearance, and the house will be enlivened with new foliage and flowers. As the plants advance in growth, trim them into proper shape.

## CAMELIAS

Will begin to grow and will require greater supplies of water, with plenty of air; they may be protected from the too powerful rays of the sun by covering the glass with sizing.

## PELARGONIUMS.

Attend to these carefully, shorten the long shoots, spread them out, and tie down as low as possible, keep clean, and turn around occasionally to give the plants an upright growth.

## JAPAN LILIES.

Re-pot in good sized pots, give good rich loam and coarse drainage.

## ACHEMENES, GLOXINIAS, GESNERAS,

That have not been re-potted, bring forward for a succession of bloom.

**CACTUSES**

Will require more water as the season advances; re-pot such as want it.

**DAHLIAS.**

Fine sorts that you wish to propagate should be put in larger pots, and when the young growth is made, propagate by cuttings.

**SEEDS OF ANNUALS**

May be sowed in pots now for a succession of bloom in the borders.

**HARDY PLANTS,**

Kept in cold frames, keep clean and give plenty of air on fine days, to guard against damp.

**THE FRUIT GARDEN.****GOOSEBERRIES AND CURRANTS.**

These should be pruned now if omitted heretofore. In pruning young bushes, let those designed for standards be pruned to a clean single stem, ten or twelve inches in height, and retain a requisite supply of the best young shoots, properly situated above, to form the head.

**RASPBERRIES.**

Prune Raspberries toward the latter end of this month, clear away all old wood, and leave four or five of the strongest of last year's growth on each root, to bear next summer. Of these cut off one-fourth of the growth. Dig and manure the ground when in fit condition. Make new plantations the latter end of the month, when the frost is out of the ground. Such as were laid down in fall and covered for protection should not be disturbed till good weather in March.

**THE FLOWER GARDEN.**

Flowering shrubs of all hardy sorts may be transplanted should the ground be dry enough. Put them carefully in good rich mould, and put a top-dressing around them of coarse manure. Make an effort to increase your stock of these.

**THE ORCHARD.**

Pruning, scraping off moss, and manuring the ground are important works for the Orchard this month.

**PLANTING.**

Make ample preparation for your spring planting. Do not undertake to plant more than you can attend to in the best manner. The ground should be subsoiled and thoroughly ploughed and moderately manured if not rich, and such preparation made as will give the young roots the

best possible chance to range freely. One tree planted on thoroughly prepared ground will be worth half a dozen treated otherwise.

**THE VINEYARD.****MANURES.**

Early this month haul manure to a convenient point for distribution in Vineyard. Almost any well made compost is good, but it is not advisable to give rich animal manures of any sort. Spread the manure on the surface, to be worked in hereafter.

**PRUNING.**

Pruning may be done in this latitude the last week in the month if not very cold, and before that time further South. Plants but one year old from the cutting must be cut down to one or two good buds each—cut about an inch above the bud, with a sloping cut. If more than one shoot to the plant, cut off all but the best, and prune that as above.

**PROPAGATING BY CUTTINGS.**

It will be too early to put down cuttings this month except in the Southern States. At the time of pruning, however, the cuttings are to be carefully preserved, or if to be got elsewhere, they should be obtained the last of the month and kept till ready for planting in March. The same should be done with plants to be planted out at same time. A good cutting should have, first, a large, well developed bud; 2d—the shoot should be round, strong and short-jointed; 3d—the texture of the wood should be close, solid and compact, and have very little pith. Very strong shoots are too pithy and long-jointed to make very good cuttings. Take cuttings from the old vines. Cut off the lower end of each in a sloping manner, half an inch below a bud, and the upper end in like manner an inch above one, having the slope on the opposite side of the bud, and leaving the cutting from 12 to 16 inches long, with four or five buds.

When thus prepared the cuttings should be laid in trenches close to each other, in some dry part of the vineyard and covered with earth to within two inches of their tops, to remain till ready for planting after the frost is entirely out of the ground.

**THE NURSERY.**

Stones of the various stone fruits should be sown this month in drills and covered about an inch deep.

**PRUNING.**

Prune and trim all young trees in Nursery.

### Phosphoric Acid in the Air.

WASHINGTON, D. C., Dec. 28, 1860.

To the Editor of the *American Farmer* :

SIR: However small may be the amount of benefit at present derived from the application of exact physical and chemical investigations to agriculture as an art, it is yet sufficiently well marked to justify the continuance of the connecting bond between positive science and Agronomy. The science of agriculture has yet to be written; before the science can be expounded, the facts have to be collected, and whatever new light can be thrown upon the intimate structure or functions of cultivated plants, whatever insight may be gained into the exact composition of the air, the water and the earth, the *pabula vite* of vegetation, is just so much valuable information laid aside for the future exposition of the processes of culture. The more accurate information now possessed of the nature of these three elements, compared with what was possessed less than ten years ago, furnishes a good commentary on the progress of science consequent upon improved means of research. Take atmospheric air as an example. Liebig, in his *New Letters on Chemistry*, published in Paris in 1852, letter 31, writes thus: "The essential parts of atmospheric air are oxygen, azote, a small quantity of carbonic acid and of ammonia, as well as a few traces (hardly detectable) of combustible gases; air likewise contains some moisture, the proportion of which varies." If we add to this the fact, then known, that traces of common salt existed in the air close to sea coasts, but which generally disappeared from air more than sixty miles distant from the sea, we have exposed the whole of what was known as regards the chemical constitution of the air. That solid impurities are suspended in the atmosphere and carried in various directions by the force of wind-currents, had been long known; dust, pollen of plants, the fine powder from volcanic craters and myriads of organized diatoms, have been known to constitute the material of which many of these *dust-clouds* have been composed. How far such has chemically enriched the atmosphere had not been set forth until the communications of the Hon. T. G. Clemson, published during the last five years in the columns of the *American Farmer*, on the constituents of the atmosphere, and the sources of ammonia, disclosed the fact that phosphoric acid is present in the air, and since, like ammonia, it is found in the earth, the water and the air, it is an ubiquitous element.

In the number of your excellent journal for May, 1856, Mr. Clemson states, from his own in-

quiries and experiments, that phosphoric acid exists in the air, and in the snow and rain water percolating through the atmosphere. This deduction is quite original on his part, and he deserves much credit for the clearness of the enunciation and the continuousness of the exposition of the means by which this acid is found as a normal constituent of the atmosphere: "I mean the infusoria and animalculæ which exist everywhere. These organisms are at work unceasingly—their labor is never ending, and though invisible and their separate action inappreciable, the consequences of it are infinite. They exist and are at work in air, earth and water, and in all kinds of matter, and they assimilate from one and the other and prepare food for higher and more perfect organisms."\* In a letter addressed to the President of the Maryland State Agricultural Society, in October, 1856,† he repeats the statement and declares the presence of infusoria and the decomposition of animal matter to be abundant sources of ammonia and phosphoric acid in the air. In the paper on microscopic organisms, published in the *American Farmer* for October, 1857, the fact of the presence of phosphoric acid in the air being dependent upon minute organisms floating in that medium, is distinctly pointed out; and this whole matter was strongly set forth before the U. States Agricultural Society at the meeting for 1857. The novelty of the fact stated then by Mr. Clemson, that he had detected phosphoric acid in the air, struck the writer of this with considerable surprise at the time, but the sources from which the aerial supply may be derived having been made manifest, we may now look upon it as an acknowledged fact that this acid—the phosphoric—must be looked upon as a normal constituent of atmospheric air.

I have been led to make the foregoing general observations upon the atmospheric constituents, and the new fact with regard to it which Mr. Clemson has enriched science, because I perceive that in the '*Presse Scientifique de deux mondes*' for 1st December, 1860, a statement that M. Barral, a French chemist of considerable eminence, has communicated to the Academy of Sciences a similar discovery, which he asserts he has made lately, but which he had suspected seven years ago, namely, the presence of phosphoric acid in the air. In the French journal alluded to, extracts are made from M. Barral's memoir, showing the amount of acid which he obtained from rain water. It is not often that

\**American Farmer*, May, 1856—vol. xi., p. 330.

†*Ibidem*—vol. xii., p. 102.



discoveries are made by men of science in this country in anticipation of European chemistry, as has happened in this instance, and when made, as they have been so lately in Europe, the effect will be that the credit of this discovery will be given to M. Barral and not to the present Superintendent of the Agricultural Department of the United States, to whom it justly belongs. As the original memoirs and communications of this discovery have been made to your journal, I take the opportunity of publishing, through your columns, the facts of the case, which show that this discovery, now claimed by France, was made before, and published in this country in the columns of the *American Farmer* in 1856. We cannot afford to lose any stand-point we have gained in this country, and if M. Barral has really made this discovery, he is only a second and later discoverer of a fact previously known and published, and therefore truly stands in the light of no discoverer at all. M. Barral in 1852 presented a memoir on the composition of rain water, collected in the Observatory of Paris, to the Academy of Sciences, a report upon which was made to the Academy by Arago: in that memoir there is no mention of phosphoric acid made nor any suspicion of its existence breathed. If M. Barral since discovered the presence of phosphoric acid, he only published it now and loses therefore the merit of being the discoverer by all the rules applied in contested cases. If, sir, you will make these facts public, you will do our country service in the eyes of the world and place our countryman *rectus in Curia*.

I am, sir, yours,

THOMAS ANTISELL, M. D.

GRAPES FROM CUTTINGS.—I send you the following remarks on the propagation of grape vines from cuttings, which may be done with very little trouble:

Have a box two feet high, and about two and a half feet wide—the length as you require—fill half full of well pulverized soil—prepare the cuttings with three eyes—cut smooth below the bottom one—place them in a slanting position, with the last bud just above the soil—take sixpenny white cotton cloth, nail tightly over the box—give warm soft water freely every evening—place the box in a sunny nook, and in a few weeks your box will be filled with grape vines ready for potting or planting in borders.

From one who is experimenting on the culture of the vine in a small green house in summer, and in the cellar though the winter.—*Country Gentleman*.

### Smut in Wheat.

We have been in the habit of recommending a thorough washing of seed wheat in strong brine and drying with quick lime or otherwise, as a preventive of smut. In our own practice we had found this sufficient. An esteemed correspondent in Worcester county who has taken a good deal of pains to inform himself of the experience of some of the most careful farmers in his own neighbourhood, informs us that they have signally failed with the brine, but have succeeded well with the blue vitriol, (sulphate of copper,) and gives us their *modus operandi*, as follows.—ED. OF AMER. FAR.

"Their custom is, to dissolve 1½ to 3 ounces of vitriol in some hot water—say 2 gallons—and add thereto enough cold water to cover 1 bushel to 1½, according to smuttiness of seed. They pour the seeds in slowly, stirring and skimming at intervals as they pour, and after it is all in, they give it a thorough stirring, and skim off whatever comes to the surface. It is allowed to remain in soak twelve hours or more; twelve will do, twenty-four will do no harm, and is the right time in case the seeds contain much smut. After which, drain and seed as soon as possible, or if you prefer, after draining, to consume more time and trouble, roll the seeds in water-slaked lime or guano—and this treatment or practice, they say, will surely prevent wheat with, or without smut, growing or producing smut, unless, forsooth, the land you sow it in is smutty, poverty stricken. And from the respectable vouchers thereof, I must say, Mr. Editor, that I have faith, and therefore believe. In that faith I have acted this time and expect to act in future unless my experience, unlike theirs, destroys it. It occurs to me, I might have done one thing that they in all probability left undone, and for which now I am sorry, and that is, I could have carried my seed to the mill and had it passed through the smut machine, and then I could have soaked it without the least trouble whatever and a good deal faster and probably with more assurance of success in the end—for I assure you I have no taste to learn, from my own neglect in any thing, however small, to brook disappointment. And now, Mr. Editor, you will pardon me this talk, for I might have been better employed than troubling you with so desultory a scribble about my doings as well as those of others.

Again accept my thanks for your kind notice of the 10th; I appreciate it altogether as much as though I had acted out your suggestions."

### How Shelter Saves Food;

*Also: How warm houses and warm clothing save food—A few practical Hints from Science to be studied during these cold days.*

Can it be that this subject is fully understood? We have talked and written a good deal about it, and so have others, yet judging from what we see wherever we travel through the country, the mass of people must still be ignorant, or the general practice would be far different. We will flatter ourselves, however, that those whose practice is wrong, have not been readers of the *Agriculturist*. It is below the truth to say that a correct knowledge and practice in the matter of protecting and feeding stock, would, during the present winter, save two million dollars worth of fodder in this country. The cold winter is upon us, and the fodder that may be saved, is likely to be needed. Let us state as plainly as may be, a few elementary facts that all should understand. They are worth *studying*.

The food that is consumed by man and beast, goes first to supply the waste or wear of the body, and what is left is stored in the form of increase in flesh. All that can be saved from waste or wear, is clear gain, or profit, in the form of added flesh.

The body (of man or beast) constantly requires some nutriment from food, to take the place of the particles that are daily worn out by labor or exercise. The less the exercise, the less the food required for this purpose. The more quiet and restless an animal can be kept, the less will be the food required to supply loss from wear of the muscles and other organs.

The greatest amount of waste in the body, however, is the consumption of food to keep up the natural heat. How is the body kept warm? Why, really, just as a house is kept warm, by the oxydization of carbonaceous materials, or in plainer words, by the burning up of materials, like wood and coal, which contain a large amount of an element called carbon or charcoal. Heat a piece of wood away from the free access of air, to drive off its water chiefly, and you have a bulk of charcoal left nearly equal in size to the original billet of wood. Heat hard coal, called "stone coal," in the same way, and you have a mass of coke left, which is like charcoal. Heat potatoes, turnips, corn, wheat, oats, hay, straw, bread, meat, or any other food, just as you heat wood in the coal pit, and you get in every case a mass of charcoal. Charred meats, bread toasted black, etc., are familiar examples, only that in these cases the heating is done in the open air, and a part of the charcoal is driven off or carried

away by the air. We repeat then, that all kinds of animal and human food are largely composed of carbon or charcoal. It does not appear in its black form, until the other materials are driven off by heat, but the carbon is none the less there because we do not see it with a black coat on. Our animals are eating large quantities of this carbon in their hay, grain, and roots, and we eat it in our bread, meats, and vegetables.

In the fire place and stove, the air (its oxygen) unites with the carbon of the wood or coal, forming a condensed heavy gas (carbonic acid) which goes up the chimney or stove pipe. This condensing of the air with the fuel (or carbon in it) gives out heat that was before latent or concealed and our rooms are warmed.

In the bodies of men or animals, the fuel (food) is chopped up by the teeth, and by the gastric juice in the stomach, and the particles are carried all over the body by the blood. We take in air through the mouth, just as the stove takes it in through its draft. The air goes into the lungs, where it mixes with the blood, and is carried all over the body. When a particle of this air meets a particle of food, it unites with it—they burn, just as the food would burn when the air came in contact with it in the stove. The result is, a little heat is given out. The myriads of food and air particles constantly meeting within the body together, produce heat enough to make up the waste heat constantly escaping from the surface.\* In cold weather more heat is carried off from the body, and we, and our animals, must either have more fire (more food and more air) to supply the greater waste of heat, or we must put on more clothing, or stay in warmer buildings. (The carbonic acid, which in the stove is carried up the pipe, is in the body thrown into the lungs and out into the air. A large number of persons breathing in a close room spoil the air the same as if a stove pipe opened into it.)

**Practical Deductions.**—The above explanations are of important application. To keep a house warm, we must either make the outer walls so close or non-conducting as to prevent the escape of heat, or we must burn more fuel to get heat to supply the waste. To keep our bodies warm, we must either put on warmer non-conducting

[\*We understand the two theories—one that the food is all oxygenized in the lungs and the heat carried through the body by the blood; the other, that the oxygen is carried into the blood and the food oxygenized at different points. Without designing to favor either of these theories, we have used the latter for illustration, as for our purpose either of them amounts to the same thing practically.]

clothing, to retain the heat of the system, or we must consume and digest more food (fuel) and breathe more air into the blood, to produce more internal heat to supply the waste.

If a horse is covered with a warm blanket to prevent the heat escaping from the surface, he will require less food to keep up the supply within, than if left uncovered in the cold air.—If he is put in a warm stable he will need to eat much less food than if in an open stable, or in one where are open cracks, and drafts of cold air through doors, open spaces in the floors partitions and ceilings. Stop up the cracks and close up the needless openings, and you will find your money in it when you have extra hay and oats to sell or buy towards spring.

Cattle, sheep, and other animals, left out in the cold, *must* have much more food (fuel) than if kept in warm, close stables. They will eat less on the lee side of a building or shed, than if exposed to currents of air that carry off the heat of the body rapidly. *The less the food required by any animal to keep up the internal warmth, the more will there be stowed away in the form of increased fat and flesh, which is so much profit.*—Sheep kept at a hay stack in a bleak field, will eat more (at the cost of the owner) but they will not grow more. The rapid internal fire required to sustain a life heat, weakens the system, as is too frequently shown by running noses, and weakened bodies, in or before spring.

Hogs kept in a warm pen with a good bed of straw, instead of in a cold pen, will use up less food for fuel, and store away much more fat, from the same number of bushels of corn. In one case they may be kept at a loss, and in the other pay a fair profit. The same reasoning applies to all animals—the human animal not excepted. Give all animals a warm habitation, or shield them from cold, and you will save food that would otherwise be required to keep up the animal heat. On the understanding and application of so simple a principle, often depends the success or failure of many—of most men.—*American Agriculturist.*

### Corn, Wheat, &c. in Illinois.

ASSUMPTION, Christian Co., Ill.

Weather during December wintry—much snow and rain. Great deal of corn yet to be gathered—price at depot (Illinois Central) 18 to 20 cents per bushel, in ear; 21½ cents shelled; not much over 40,000 or 50,000 bushels yet shipped South. Markets very dull, and money seceded. Growing wheat generally good, though some injury from Hessian fly. Hogs dull at \$3.50 to \$4 gross.

H. HINKLEY.

### Subsoil Ploughing.

Before commencing spring work it will be well to consider which lands should and which should not be subsoiled.

From the days of Jethro Tull until within the last twenty-five or thirty years, the farmers of England were content, in common with those of other countries, to stir the immediate surface of the soil, and were not aware that a greater depth of disturbance would produce a larger and better result. Indeed, it was generally believed that the whole matter which went to fertilize plants, belonged to the immediate surface, or that portion known as *loam*—a name given, until very recently, to the disturbed portion only—which, by the combined influence of the sun, air, and decay of vegetation, changes its color. The fact that the components of the soil beneath these points were all to be found as part of the integrants of plants was scarcely known, and still less so that they could not be absorbed by them, and thus go to make up the structure, until acted on by a series of influences caused by atmospheric contact and the presence of humidity—not the result of stagnant water. Liebig first exposed the true value of the inorganic substances of the soil, or those parts which were not the immediate result of plant decay; and farmers slowly yielded their long cherished belief that the black portions of the soil alone could make plants. These new doctrines gave rise to the use of a subsoil plough, which, without elevating the subsoil to the surface, disturbed it in places, and permitted a free circulation of atmosphere between its particles. The deep cuts made by the plough also acted in degree as underdrains, and permitted, under some special conditions of surface—such as the slope of hills, etc.—redundant water to pass away. Air necessarily entered, and chemical changes occurred; the surface of the particles of the subsoil were soon conditioned so as to sustain roots, and they passed into it to a greater depth than had been before known. These, in turn, absorbed from the subsoil larger quantities of inorganic matter, rendered soluble by chemical changes consequent upon moisture and air. The constituents were taken into the plants above, and portions not marketable as crops, decay in the upper soil, adding to the greasy, unctuous, organic matter new portions of inorganic food for future crops.—Plants had longer roots as well as greater number of fibres, and larger crops was the consequence. The decay of these roots in the soil left tubes to great depths; the atmosphere could come in laden with gases, resulting from vege-

table decomposition required by plants; rains and dews, which was the nitrogenous exhalations of all organic nature from the atmosphere, descended into the subsoils, which gradually changed color so as to make deep loamy soils in localities where before only sparse, shallow-rooted crops could be grown. All this was heard of by the American farmer long before he was awakened to action; and even now, when every truly practical farmer owns a subsoil plough, he can tell you of some neighbor who cautioned him against its use, and who insisted that the deep disturbance of his soil would let all the manure filter downward; that, if that were true, every well would be the receptacle of the results of decay, every spring would be a cesspool, and every rivulet but an organic charnel-house. Nature, in the wisdom of her laws, has rendered the carbon and alumina of the soil, after proper exposure to atmospheric influences, capable of receiving and retailing all the results of decay; and the value of a farm must depend upon the depth to which its surface by disturbance is rendered capable of performing this peculiar function.—*Exchange.*

### Breaking Steers.

It is very fine sport for the young and athletic to yoke up steers and teach them how to obey. If they are subjected to the yoke when quite young, they will not forget their treatment during life.

One good mode of yoking them is to drive them into a broad stable where they can be caught without difficulty.

Take care and have help enough at first to hold them when you have caught them. Put on a light yoke gently, and let them have time to learn that it will not hurt them. Let them stand in the yoke for hours, and eat hay—not attempting to drive them off as soon as they are fastened together. Handle them and let them eat a while in the yoke.

In the afternoon drive them out into a large yard. A common cowyard will answer. Fix a rope or halter on to the horn of the nigh steer to prevent their running away, for they will make many attempts to do this till they are completely halter broken.

Drive the steers round and round the yard with the rope in your hand. Pretty soon they will find that if they break away from you they cannot go far. Stop them occasionally and say "Whoa" in the plainest language. Then speak to them to go on *before* you put the whip or stick on their backs.

You can call them by name and say "Come" when you wish them to move forward. It is not fair to strike first and speak afterward. After driving the steers round the yard repeatedly, in the same track, they will learn where to go without your rope, and you can drive them round in the same track as long as you please.

Now have patience and continue this exercise till the steers have perfectly learned *the first lesson*. Never try to put them forward as fast as some school men do. Don't put them into Latin and Greek before they can read and spell. But when you tire, as you will do before the steers give out, put them back again into the stable and take off the yoke in the gentlest manner. Then you may yoke them on the morrow and drive them round the yard again with less trouble than at first.

After this breaking you can place them forward of the old oxen and teach them to lead in the highway. You will need your rope on the horn at first. But soon they will learn to keep the road. A sled path is best for steers, as it will keep them on the track. And in case of any turbulence on their part, snow is better for the teamster than frozen ground.

A birch stick, with numerous twigs, will do for a yoke of steers. It is better than a common whip, or a goad stick. But a whip handle with a lash two feet long will command the new recruits as well as a rod. The handle of the whip must not be large—and it must never be used, butt-end first, on the noses of cattle.

We often see wens on cattle's heads caused by beating with clubs and club-handled whip-staves. There is not the least need of this harsh treatment when steers have been properly broken.

Let owners command their own tempers, and require their agents to do the same. Then there will be less trouble in the breaking of steers and oxen.

It is a hard task to teach foreigners how to drive steers, or old oxen either. But our young men—our Yankees are the "boys" to break steers and teach them how to work. Our boys need not all go off to California before they are twenty-one years of age—for they owe something to parents for bringing them up. At twenty-one they can judge better how to buy a few thousand acres of land, or a mining mountain, than they can at sixteen.—*Exchange.*

The Greek writers adduce a good remark: "Where men live a swinish life, there Christ abideth not, but devils only."



### Dairies and Dairying.

The importance of dairy-farming, though generally considered as occupying a secondary degree, is so universally admitted, that it requires no apology for giving the subject a prominent notice.

The dairy is a branch of rural industry deserving of attention in the highest degree. There are no other means known to us, by which so great a quantity of animal food can be derived for human support from the same space of ground. In many of the counties of this State, and in most of the Middle and Northern States, the production of this kind of aliment is immense, and its entire value forms no inconsiderable proportion of the yearly produce of the land.

There is no class of persons by which milk, in one or more of its forms, is not used. Cheese may seem to be a mere superfluity to those who feed largely on other animal food; yet even among this class, the consumption, from its regularity, is considerable; but among the far more numerous classes, to whom cheese is a part of their customary diet, the consumption of this substance is very great. Butter is used in almost every family above the poorest, to an enormous extent. Simple milk, too, enters into the diet of every class, with this peculiarity; that it is consumed in a larger quantity in the rural districts than in town and cities.

No other branch of rural industry produces so large a quantity of animal food, from the same space of ground as the dairy. Surely, since the demand for dairy produce exceeds so considerably the supply, it consequently must be of the highest importance to increase that supply by every means that can be adopted, which would not injure or materially interfere with other interests of great importance. This country, or rather, particular sections of it, has long been noted for the produce of the dairy—both cheese and butter—in which few sections have been able to rival us. The process of making these articles, it is true, in other States or sections, differs somewhat from that generally adopted among our own dairy farmers; but this is not always sufficient to account for the difference in quality which exists, since it is not an unusual thing to find dairies in different parts of the country conducted upon precisely the same plan which furnish products of very different qualities. When such is the case, this difference must be in consequence of one or other of the two following reasons: either there must be a difference in the breed of cows employed in the dairies, or else the quality of the food upon which the cows subsist must be

materially different. It behooves, therefore, persons interested in dairying, who perfectly understand the modes adopted in those districts where the products of the dairy-farms are held in the best repute, to apply themselves diligently in the discovery of the cause why their dairy productions are considered inferior to the products of others probably at no very great distance from them. We do not presume to say that the defect could be easily or in all cases remedied at all; because, where it was ascertained to proceed from a difference in the herbage upon which the milch cows pastured during the summer, it might be found impracticable to assimilate the herbage of the one to that of the other; or least this could not be effected permanently, nor at all, unless at a very great expense. But where the inferiority was ascertained to proceed from a difference in the kind of stock, where the dairy is the first consideration with the farmer, this defect should speedily be remedied.

Something depends, no doubt, upon the climate, since extremes of cold or heat are known to be prejudicial to the dairy; although in the warmer latitudes, cheese, and sometimes even butter, is made, neither of them would be considered fit for human food in the more refined and more famed countries for dairy purposes. Something also depends upon the manner in which the dairy house and cheese-room are constructed; and probably less attention is bestowed upon this point among our dairy farmers than it deserves, or which it obtains in most other countries where the management of milk is carefully attended to.

The great point in making good butter, and that which will keep, is the freeing it from all butter-milk; and if everything else is well done if this point is overlooked, good butter is impossible for any length of time. The mixture of milk in any degree with the butter is sure to produce frowiness of an unpleasant taste to the butter; and the entire freedom from this constitutes the grand secret of making good butter. There are many who think washing butter with water incompatible with retaining the rich flavor; but if the water is cold and pure, it is scarcely possible anything should be washed away—the buttermilk which destroys the flavor of all butter, and that which in all markets commands the highest price—viz., Dutch butter—is invariably made in this way; and where the example has been followed by others, it has rarely failed of success. If any, however, doubt the propriety of washing butter, they may use any method they please, provided the milk is separated perfectly. Entirely free from the substance that



causes it to assume the putrid, frowy taste of bad butter, it may be kept with almost as much ease as lard. Solidity in packing, clean, sweet vessels, and a low temperature, will ensure its keeping for any reasonable time. Let no one expect good butter, however, as long as coarse, impure salt is used, or a particle of the buttermilk is allowed to remain in it.—*Genesee Farmer.*

### Early Vegetables.

Many farmers are deterred from attempting to produce very early vegetables, by an erroneous idea that the making of a hot-bed is a complicated and difficult operation, while it is just as simple as making a hill of corn. Every man who has a garden of whatever size, if he will once try the experiment of making a hot-bed, will, we venture to predict, find the task so easy and the result so satisfactory, that he will never forego the luxury afterwards. All that is necessary is to make a pile of horse manure two and a half feet deep, with the top level or sloping a little to the south, then set a rough frame made of four boards nailed together at the corners, upon the bed of manure, fill the frame with six inches of garden soil and cover with a window of glass. Any old window will answer the purpose, but it is better to have the bars of the sash run only one way, and to have the glass laid in the manner of shingles.

The best plants to force are tomatoes and cabbages, which may be transplanted from the hot-bed to the open air without any trouble. We have removed tomatoes when they were in blossom, and had them all live. If melons or cucumbers are forced, they should be planted in flower pots, and in transplanting them you turn the pot over upon your open hand and give it a gentle thump, when the earth comes out in a solid lump and the roots are not disturbed in the least. While the plants are growing, they should be watered frequently, and in warm days the sash should be raised a few inches to give the plants air. We have found the growing of plants under glass, from a small hot-bed, four feet by six, up to a large grapery for raising the black Hamburg and Frontignac grapes, the most satisfactory of all horticultural operations. Having the control of the climate both in heat and moisture, the plants can be made to grow with a vigor which they rarely if ever exhibit in the open air. A hot-bed should be made from four to six weeks before the time for planting corn.—*Scien. Amer.*

A cubic foot of common arable land will hold forty pounds of water.

### High Feeding of Sheep:

FOR THE BENEFIT OF ALL WHOM IT MAY CONCERN.

*Eds. Rural New-Yorker:* You know I have for many years advocated the higher feeding of sheep and cattle and keeping them growing in winter as well as summer. No farmer can afford to let his stock stand still, and what is far worse, let them get poorer from the first of December until the first of May or later.

Now, I will give you a case that came directly under my own notice. A long-time friend of mine, who lives at a considerable distance, was visited by me a few years ago, when I looked at his wool, just then shorn. I handled a few fleeces, and then said to him I was surprised that any man of common sense would raise such light fleeces. He asked how he could help it; he fed them all the hay they would eat in winter, and it would not pay to feed grain to sheep. I told him that it would not pay to keep sheep that sheared such light fleeces at any rate, and that, if it would not pay in the way he was keeping, he had better try grain, as he could be no worse off. Advised him to feed straw and grain until April, then have good, early cut hay, to feed until grass, either with or without a little grain; and, judging from his breed of sheep, I was confident that in a few years, by cutting so much less hay he could afford them far more pasture, and in that way get his fleeces to average from five to six pounds—that he would raise far more and better lambs, and thus make his sheep profitable. I left him without knowing whether he would take my advice or not, but he did take it, and gave the sheep three-fourths of his meadows for pasture. When winter commenced he began feeding half a pound daily of buckwheat to each sheep, with fresh straw three times a day, (wheat, oat, and barley straw,) until the first of April; then gave good hay, with a very little grain.—The first year his fleeces were increased about 1½ lbs. each, or from 2½ to 4 lbs.; the next year they averaged 4 9-16 lbs., and this year they averaged plump 5 lbs. But that is not all his gain; he raises far more lambs and far better ones, and he sells his wethers immediately after shearing for nearly or quite double what he could formerly get in the autumn.

Now let us look at the cost in keeping sheep in the way I recommend. In the first place there is the saving in the expense of cutting and making four months' hay, which is a considerable item. Say 75 lbs. of buckwheat per day for each sheep, for 150 days, at 40 cents per 48 lbs.—making 62½ cents. Increase of wool, say only 2 lbs. at 46 cents, (the price he sold it for these

two years,) is 92 cents. Then there is the profit in more and better lambs, the additional price for the wethers, besides getting them off in June in place of October, and the saving of cost of cutting the hay. Why, I should think any farmer could at once see that the profit is immense from keeping on dried up timothy hay and poor pastures in summer, and then every farmer can do this that raises straw and oats, barley, buckwheat or corn; for either will answer the purpose, only give half to three-fourths of a pound daily to each sheep. I assure you there is no way of making stock of any kind pay unless fully fed. When once sheep are got up in good condition, a little less than the above quantity daily will answer a very good purpose, especially if grain is high; but I have put the buckwheat above the average price on the farm; peas or oil cake meal is better than any grain for sheep.

Now, Mr. Editor, there are many thousands of farmers keeping their sheep equally as badly as my friend did a few years ago, who might better their circumstances greatly if they would only read this and believe me. I write what I do know and nothing else. It makes no difference whether a farmer keeps 100 or 5,000 sheep; he ought to keep them all in the same way. When I kept a flock of from 800 to 1,000, I fed half a pound of oil cake meal or corn daily to each sheep, even when I fed hay all winter—at least always after I found out by experience that that was the only true and sure way to make them profitable. I know H. T. B. thinks it might affect trade and commerce if farmers should feed so much grain to their stock; yet my candid advice to farmers is to try it. If they find it ruinous they can discard the practice. But to begin with lean stock, they must feed them well for two years before they see the full effect of the change, and it may even take longer than that with poor, starved animals; but begin and continue one year and you will never give it up, I am confident.

JOHN JOHNSTON.

**TRANSPORTING BEES.**—A correspondent of the *N. E. Farmer* gives the following directions for transporting bees:

"Spread down a sheet, and set the hive on it; then bring up the corners and tie over the top, or invert the hive, and put over the bottom a piece of muslin eighteen inches square, fastened at the corners with carpet tacks. A wagon with elliptical springs is best for conveying them. In all cases, the common box hive should be bottom up, to avoid breaking combs. When moved late in the season, they should be set several feet apart."

### Cultivation of the Basket Willow.

We have from time to time, through the columns of the *Valley Farmer*, and other publications, urged the importance of the cultivation of basket willow for home manufacture. In almost every town there are Germans, and others, who are practically acquainted with the various forms of manufacture of this article, and so great has been the demand for the raw material by these, that large quantities are every year imported from Europe, notwithstanding the considerable effort that has been made in various sections of the Union to produce a supply at home. The various kinds of willow grow kindly and rapidly in our country, and there are thousands of acres of our Western lands so low and wet as to be of but little value for any other crop, upon which willow may be grown to the best advantage.

The value of the willow-ware manufactured annually in the United States, amounts to some hundreds of thousands of dollars, and much of this is manufactured from imported willow, the freight and commissions on which are nearly equal to the actual cost of growing the article at home, while the imported article is often inferior to that of our own growth, because it is liable to become soiled in handling and from exposure on ship-board and in store.

We have for many years grown the best kind of willow in Kentucky. It grows with such luxuriance as to require but little cultivation after the first year. It is propagated from cuttings with as much certainty as any seeds of grain may be grown. A working with the plough, cultivator and hoe, a few times, is all the cultivation that is necessary; for when the plants become established, the ground is so much shaded that few weeds will grow among them.

For coarse baskets, for farm or other uses, the unpeeled willow is superior to any other material, while the finer portions of the crop can be peeled and wrought into baskets of a better quality.

The increased culture of fruit for transportation by railroad, requires an immense number of baskets, and this demand will continue to increase as this important branch of horticulture increases with the demands of the population and the increasing facilities for marketing.

Last summer we paid a visit to the farm of Col. Colt, the famous manufacturer of the pistol of his name. The farm is situated on the Connecticut river bottom, perhaps a mile below the city of Hartford, and is enclosed by a heavy dike, to prevent the overflow of the river. This dike is protected by thick-set rows of willow.

The crop of the past season will amount to forty or fifty tons. Offers have been made by dealers in New York, for the purchase of the whole of it; but Col. Colt has concluded to add to his other manufactures that of willow-ware, and he is about erecting buildings for the purpose. Besides the willow grown upon the dikes, he has seventeen acres of land established in this crop, and in the spring will add fifty more, and will give employment to from eighty to one hundred men in its manufacture. At the time of our visit to his farm he had thirty acres in seed-leaf tobacco, equal in luxuriance and beauty to any that we have ever seen in Kentucky or elsewhere.

There are thousands of acres of wet land in the West that might be devoted to the growth of willow, giving employment to hundreds of workmen in the manufacture, and all find a ready market in the cities and towns at home.—*Valley Farmer.*

### Dwarf Broom Corn.

This is a new variety, not thoroughly tried. It seldom exceeds four feet in height, and half of that is composed of the *panicle* or brush. It is peculiar, in the fact that its panicle is held in a leaf husk, which, even after maturity, continues to clasp it. This has the good effect of preventing the falling down of the brush, as is common with other varieties, but the perhaps greater disadvantage of catching the rain in this enveloping "boot," and thus mildewing the otherwise fine elastic straws, which always deteriorates their value at least one-half. And this enveloping husk must be a great botherment in cutting off the brush, which must be done with great rapidity, if done with profit.

Many persons have inquired after this variety, because they have associated with the word *dwarf* the idea of a nice little brush, suitable for the shaker broom. This is a mistake. The brush is really no shorter, and its chance of being *bright*, which is the paramount object, is far below the *old sort*. As for the length of the brush, that is governed entirely by the stand on the ground. If the soil be *strong and warm* and the stand from six to ten stalks in the hill, in rows three feet apart, each way, or correspondingly thick but drilled one way, the branches will be the right length for the flat broom. If, then, such corn, of the tall variety, be cut when the seed is in the milk, scraped as it is cut, dried one day in the sun, and then cured in the shed, it will be bright, heavy to the acre, and will wear as long again as when allowed to ripen its seed and partially dry on the stalk.—*Ex.*

### Grape Culture.

From all accounts the grape crop in the United States will be an abundant one this year. It is stated that there are now about 4,000 acres laid out in vineyards in Ohio, half of which are in the immediate vicinity of Cincinnati. The yield last year is estimated at three hundred and fifty gallons per acre for the whole State, which is much above the usual average. From a careful estimate of the vintages for the last twelve years, the average yield for the Ohio Valley is two hundred gallons per acre; on well cultivated vineyards, in favorable positions, three hundred gallons, which is about the average product in France and Germany. In Missouri and Illinois the yield did not exceed two hundred gallons per acre, owing to the prevalence of rot; and in Tennessee, Georgia and South Carolina it was very much reduced by a destructive frost in April. The hills of South Carolina and Georgia are rapidly becoming covered with vineyards. One wine-grower, Dr. McDonald, has already planted ninety acres with the grape.

In our mode of culture we have adopted, in the main, the system recommended by Mr. de Caradeuc in his admirable treatise on the "Culture of the Grape in the South." The tedious and expensive plan of trenching and reversing the entire soil to the depth of two to three feet, has been repudiated by the growers as wholly unnecessary where land is so abundant and cheap as with us; as of no practicable utility whatever—a species of "fogyism" at war with the "progressive" spirit of the age in which we live.—Mr. de Caradeuc, I may be permitted to remark, in his simple and truly practical treatise, has effectually removed from grape culture all its mysteries.

In regard to the variety, the Catawba suffers greatly from untimely frosts wherever they occur. Several new species that seem less subject to disease have already been partially tried, and found to yield wines superior in quality to the Catawba, Cape, or Isabella. The Delaware is the best; the Venango, the Herbmont, the Diana, and the Norton's Virginia for red wine, all of very superior quality; and it would seem a matter of wisdom in the planting of new vineyards to introduce several varieties, in about equal proportions, instead of planting exclusively the Catawba, as we have been too much in the habit of doing. In this way there would be a chance of securing a crop of one or more kinds in seasons when others fail.—*Exchange.*

There are five pounds of pure sulphur in every one hundred pounds of wool.

### Knowledge Required in Farming.

There are many who look upon farming as rather a small business, who think that its successful prosecution requires only a little common sense—just enough to prompt the hardy worker to seek shelter in a rain storm—and a very little knowledge, just sufficient to count a flock of sheep, or read a newspaper. This opinion was once more general than now, for the world is growing wiser; yet at the present time it is entertained by many. It is an old and true saying that “honor and shame from no condition rise;” that honor is only acquired by acting well our part in whatever situation we may be placed.—A man of ability and knowledge, who devotes all his energies to his business, will make it honorable and profitable, no matter how insignificant that business may at first seem. The making of a pin, or a button, or a lead pencil—how trifling a business does this appear—and yet even the manufacture of these articles affords full scope for the greatest manufacturing skill and business tact, and we see large factories erected for this work, giving profitable employment to hundreds, and yielding rich revenues and princely fortunes to the proprietors. If, then, a business so small and contemptible in itself is made honorable by the energy of those engaged in its management, it only requires the same energy and ability on the part of those employed in farming, to cause it to take its proper position as the most important and honorable profession that can engage the attention of man. A profession that feeds and clothes the world, that furnishes all the luxuries and necessities of life, the suspension of which even for a single year would bring upon the world wretchedness and starvation, the like of which has never been witnessed, is certainly of sufficient importance to rank with any trade or manufacture. A profession that has to do with the earth and its variously formed soils—with air, and rain, and heat, and light—with every tree and shrub that beautifies, and every thorn and briar that curses the earth—with the whole animal and vegetable economy—should certainly rank with the learned professions.

There is no business requiring such varied acquirements, so much knowledge, so much good judgment and commercial ability combined, as is necessary for the thorough, accomplished farmer. He stands first among the *manufacturers* of the land. He makes the wheat and corn, the beef, and mutton, and pork, the wool and flax, and manufactures from the earth, the air, the water, nearly all that we eat, and all we wear.

And this is not only done by farmers as a class, but almost every one produces many, if not all, of these articles. The manufacturer usually confines his labors to the production of one article; but the farmer is by necessity compelled to make many. If he would make grain, he must also make beef, or butter and cheese, or mutton and wool. Hence the necessity for extensive knowledge. It is an easy matter for the manufacturer to ascertain how much wool will make a yard of cloth of a certain description, and what will be its cost; but it is not so easy for the farmer to ascertain how much grass, or hay, or grain, will make a pound of wool. The manufacturer can test a new machine, and ascertain by a few simple trials whether it will manufacture the desired article cheaper or better than the old one; but to ascertain how a pound of beef can be made the cheapest, what machine will convert hay into rich cheese in the cheapest and best manner, is a matter requiring a good deal more care and skill.

Among his varied acquirements, the farmer should possess a knowledge of animal physiology, so as to be enabled to keep his stock in health and administer proper remedies in case of sickness. *Vegetable physiology*, too, must not be overlooked. Every day during the growing season the farmer performs work for the growth of his crops founded on the known laws which govern vegetable life. *Entomology* is a science which the farmer is compelled to study to some extent, and often much more, perhaps, than he desires; but the more he does so the better is he fitted to wage a successful war against thousands of destructive foes. In addition to all this the farmer must be a *merchant*; for he must sell as well as manufacture. He must in some measure take advantage of the rise and fall of prices, select the best time for selling, and the best market, or after all his toil and anxiety he may find but a poor return.

When we contemplate this subject, at which we have merely glanced, in all its bearings, we are led to exclaim, who is competent to this work? Heartily do we pity those who think that farming furnishes no scope for the exercise of knowledge or ability. If this opinion were entertained only by those engaged in other pursuits, it would be of no serious consequence; but we judge that many farmers have themselves imbibed such unfounded and unjust opinions in regard to their calling, and where this is the case there is an end to all improvement, and all desire for improvement. A man must have a good opinion of his calling, a proper appreciation of



its importance, and the means and information necessary for its successful prosecution, or he cannot hope to succeed. We suggest this subject as one worthy the attention of those who may be called upon to deliver addresses before agricultural associations the present winter, and for discussion in farmers' clubs.—*Rural New-Yorker*.

### Experiments with Plaster on Pea Fallow.

I last year had two barrels plaster (all I had) sown on a part of my pea fallow; the plaster was applied to the poorest and lightest part of the field at the rate of a half bushel per acre; the peas had about six or eight leaves at the time the application was made. In a few weeks the vines were a much deeper green, and were much more flourishing than those adjacent without plaster. The whole field was fallowed and put into wheat at the usual time. About the 1st of January, the wheat on the plastered portion began to take the start and maintained it up to harvest; and when cut, I think was fully four times as good as the balance of the field, notwithstanding the pea vines were twice as good on some richer parts of the field, where there had been no plaster. The joint-worm fly seemed to attack an unplastered wheat to the very row where the plaster stopped. I did not thresh or measure the product separately, but all my neighbors who saw the crop when growing, I am sure will concur with me in the above estimates of the product. The growth of weeds, &c. on the land since harvest, distinctly mark the boundaries of the plastered portion.

I have applied plaster to the whole of my pea fallow (130 acres) this year, and have the best growth of vines I have ever had. On a portion of the fallow, not plastered, to see the difference, I think the growth is scarcely one-fourth of what it is on the same land alongside of it with the plaster.

On a part of the fallow I applied one bushel per acre, on the last sowing; about the 1st of July I applied a half bushel plaster, and a half bushel leached ashes, well mixed together. I can see no difference in the pea vines. If plaster will act as well on all lands, I think we may save the expense of buying guano in the future. I have frequently used guano, but have never seen the best Peruvian produce so fine an effect as this small application of plaster on pea vines has produced this year. The land on which the experiment was made, is light Mataponi land, well adapted to corn, but rather too sandy for a heavy crop of wheat.—*Southern Planter*.

### How to Increase the Fertility of Soils.

*Messrs. Editors:* I notice that the Hon. R. M. Conklin of Cold Spring Harbor, in reviewing my remarks on Long Island farming, seems desirous of knowing how I have managed to keep up or increase the fertility of my farm without resorting to foreign manures. There is no difficulty in doing that on all our clay subsoils in this part of the State. In the first place you must feed your stock well all the year, and keep them improving both in summer and in winter. Keep them in yards from the time the pasture won't afford them a sufficiency in the autumn, until there is pasture enough in spring to support them fully. Then apply the manure made in winter, and *take care not to overstock your pasture land* in summer, as by so doing you are not improving nor resting your land by letting it lay in grass, if it is all eaten off as fast as it grows. Let the land be covered with grass or clover, and it is getting fat daily, and so will the stock. I also have sown one bushel of plaster (gypsum) to the acre, on all my meadows and pasture land ever since I commenced farming here.

By rigidly following up the foregoing system, my farm has become far more productive now than it was thirty-five years ago, producing double the quantity of hay and pasture, and corn or oats, and the wheat crop is also more productive; but as I have often said, high manuring is not required for wheat. If we had always dry summers, wheat would stand much higher manuring, but we do not know what the summer is to be until it is past; therefore it is safest to manure only moderately for wheat. For corn or grass I have never reached the point where I thought too much was applied.

J. W. Clarke wrote a very sensible letter, published in *Country Gentleman*, on over manuring; at least I thought it sensible, because I had sometimes erred in manuring too highly for the small grains.

Now let me tell Mr. Conklin what I saw on Long Island that I did not take notice of in my article on that Island. I went into a field where there was quite a number of cattle—perhaps 20 or 30, and partly full grades from the improved breeds. Although in the month of November, when cattle are generally in good condition if they ever are, these were then poorer than any I ever owned in the month of April. The fact is, many would have been dear as a gift, for wintering over in Western New York, for the reason that good cattle could have been bought which would have paid more for their keep than those



poor animals were likely to be worth in spring with the same feed. It was a wonder to me how they could live on such pastures, as it would have taken a man with a pair of good forceps or pinchers, to get hold of the grass, and how the cattle could catch it with their teeth, I could not understand. Now any man can easily perceive that such a way of conducting farming must be ruinous every way.

I also went into another field where some blooded mares and colts were pasturing, where the grass was no better; but I have heard gentlemen argue, that to make good and hardy horses, they must be kept poor in their youth. One gentleman, who I thought very intelligent in many things, to prove his argument, said there was the Scotchman raised on his oat meal *crowdy*, and the Irishman raised on potatoes, and where would I find healthier or hardier men when they were at their growth than these? I admitted this, but told him if he would feed his young horses liberally with oat meal and potatoes, he would take more pleasure in looking at them, and I was sure they would be better formed animals when fully grown. The best breed of cattle, sheep and horses, can be made a bad breed by poor keeping for a succession of years. Poor starved animals cannot produce good stock any more than poor land can produce good crops, and it is folly to expect it; yet I am convinced that breeding stock can be kept in too good condition, but that is very seldom the case in this State.

I should like to hear of some of the hill farmers in my native country, trying the experiment of feeding half a pound of oats or peas to each sheep daily, from the commencement of winter until May, for at least two years, and note and publish the result. I am convinced it would pay abundantly, and if they would give some hay, still better. Good feeding must pay, but bad feeding *never*.

This buying of dung at city prices may pay, and I suppose does, to raise vegetables for New York or other large cities, but I cannot believe that it can pay to raise grain or grass. It is something like a farmer buying his bread and meat. I know that every farmer can, in this part of the country, make manure enough to keep up the fertility of his farm with stock and clover if he tries to do it. I have kept about one-third, and sometimes one-half of my farm in grain crops yearly since I owned it, and the result is that it is far more productive than when I commenced on it; and every one that knows it now and knew it then, knows that what I write is true. Manure, however, will be consumed

much sooner in much of the land I saw on Long Island, than on our drained clay lands in this part of the State: but I have made this article far too long and will stop.—JOHN JOHNSTON, in *Country Gentleman*.

### The British Corn Trade.

With the utmost aversion to the resumption of a melancholy strain, the stubbornness of facts urges a continuance of complaints both as to the unpropitious character of the season and of future prospects. The light well drained lands have again by far the best chance of remunerative returns. Almost incessant rains have nearly water logged the cold clays and low situated localities, and much of the wheat crop must depend upon the sowings of spring. The new wheat has come worse to hand as the consequence of the bad weather, and the trade, to be properly described, must be cleft in twain, or viewed as exhibiting a double current moving in opposite directions. The price of old wheat and fine dry new has rather moved upwards with steadiness, while damp new has come to a dead-lock, or been forced off at low rates to meet the expenses of kiln drying. Without this process much is only serviceable for cattle food. Indeed, so low is the estimate of the value of new samples, that town millers have found the best only fit for mixing with good foreign, in the small proportion of one-sixteenth. This will explain the high rates of town-made flour, and the general neglect into which all new English wheat has fallen. If only one-sixteenth is useable by first-rate millers, the bulk (while good foreign is within reach) must be neglected till it is dried, either artificially or naturally. So convinced of this have farmers lately become, that many markets have had but small supplies, and the reduction of the quantity on offer has alone kept prices where they are, in the midst of an abundance of foreign. The Continental markets, though generally dull and affected by the late English advices, show but little decline, the Italian States noting a slight upward movement.

The sales of wheat noted last week were 68,737 quarters, at 54s. 10d., against 129,620 quarters in 1859. The London averages were 55s. on 2,695 quarters.—*Mark Lane Express, Dec.*

**BUTTER-MILK PIE.**—Three pints of butter-milk, two eggs, four table-spoonfuls of sugar, a tea-spoonful of flour stirred into the milk, and half a nutmeg. Stir well together, and bake like a custard pie.

### Washing Sheep.

This, from our correspondent, is a little out of season, but it will give farmers time to discuss the subject before the next wool season comes round.—*Ed. Ohio Farmer.*

In relation to sheep washing, I will renew the opinion which I have often expressed, that it is useless in the extreme, but a habit now so thoroughly engrafted upon us that it is hard to break off.

Once it was a more rational ceremony, when the washed fleece passed directly from the sheep's back to the cards and into thread, without any farther cleaning. Now, *all wool in the fleece* undergoes a thorough washing before it is worked into cloth. If we were not really creatures of habit, we should at once abandon this dangerous and destructive practice. In fact, if this mode of washing wool had never been instituted, and a person of common reason and intelligence should catch us ducking a flock of poor innocent sheep in a bath of cold water, for the only purpose of cleaning the fleece, we should be reported as insane, and in danger of being hurried off to a lunatic asylum.

No economy or advantage is gained by *washing the sheep*, but a perceptible injury, as well as loss of time, health and property, is the inevitable result. Firstly, it takes the shepherd's time when he can be more pleasantly and profitably employed in some other way; and secondly, he is not only liable to the injury of health, by standing, as is usual, in a stream of water for some time, but it is very injurious to the sheep and their offspring. At this season of the year, the animal is generally in the lowest condition of flesh, and it is not uncommon for some of the flock to die under the process, as well as a loss of lambs by this wicked treatment, caused by fatigue and the soaking of the whole body in the water.

I know of no beast or animal so averse to water as a sheep; they will strive to avoid walking in water. Immediately after being shorn, by pouring six quarts of cold water upon its back, it may die. The pelt of a sheep is very porous; by this wise arrangement, the oil can freely pass from the body into the fleece in a warm day, to be returned again, or absorbed in cold or wet weather. This passage of oil into the fleece makes it more weighty, if clipped in a hot day. Although the wool covering and the superabundant oil will not protect the sheep from the influence of water, like the fur of animals, still this covering shelters them from storms, moisture and cold. No climate will in-

jure them so much as cold rains; a catarrh or cold is perceptible in a few minutes after exposure. If it was required to wash the clothing of a standing army, (a regiment of females we will not mention,) should we give credit to good generalship, if their commander required them to be marched into a pond or stream of cold water, and after a tedious and universal ducking, (perhaps drowning some of them,) march them out again, then let their half-washed covering dry upon their backs; after this, strip off their clothing and thoroughly cleanse in a washing machine. This is as consistent as the treating of an innocent sheep in like manner. As the world wags, the wool upon some flocks may be faithfully washed, while others do not wash out one-half of the oil and filth; each may receive the same price per pound for "washed wool," and injustice rendered to the more honest man. In this age of progress, I believe that the day is not far distant when the washing of wool on the sheep will be entirely abandoned.

### Why don't they use the Roller?

Why don't our farmers use the roller more frequently? Is it because they are not willing to incur the expense of the purchase? Is it because they are not disposed to bestow the extra amount of labor involved in rolling their fields, or is it because they do not understand its uses and benefits? Do they not know that a roller is almost indispensable on light soils, because it presses the earth closer around small seeds—that it is equally useful on heavy soils, because it crushes the clods, and brings the pulverized earth in direct contact with the seed—that it is good on grass fields because it presses small stones, bones, &c., which would otherwise injure the knives of the mower, into the earth, and out of the way, and that it also levels ant and mole hills—that it is useful upon wheat fields in the spring, pressing the plants which have been thrown out by the frost, into the earth again—that it exercises a most happy influence upon oats, if used after the plants have attained a height of three or four inches; in a word, Mr. Editor, that it is good almost everywhere, and ranks very properly with the most important implements on the farm?

It is astonishing, that while we are making progress in almost every other direction, we have done so little towards the general introduction of the roller. My own experience with it, has been so entirely satisfactory, that I cannot forbear urging its importance upon every farmer who has thus far not tried it.—*Farmer and Gard.*

Meteorological Observations kept at Schellman Hills, Carroll Co., Md., Sykesville P. O.,  
DECEMBER, 1860. (Reported for the American Farmer.)

DAY	THERMOMETER				WIND.			RAIN Inch's	REMARKS.
	7 A. M.	2 P. M.	9 P. M.	D'y Mean.	7 A. M.	2 P. M.	9 P. M.		
1	33	33	25	30½	N.W.	N.W.	N.W.	.....	Clear.
2	23	31	25	26½	W.	W.	W.	.....	Clear.
3	22	36	30	29	N.W.	W.	W.	.....	Clear.
4	34	35	23	30½	E.	N.W.	N.W.	.....	Clear; clear; began to snow 4 A. M., end 2 P.
5	24	40	33	32½	W.	W.	W.	.....	[M.—1 inch fell.
6	29	40	34	34½	W.	S.W.	S.E.	.....	Clear; cloudy.
7	30	45	35	36½	N.W.	W.	N.E.	.....	Cloudy.
8	33	38	33	33½	N.E.	N.E.	N.W.	½	Rain—cloudy; rain began 5 A. M., end 2 P. M.
9	33	35	30	32½	N.W.	N.W.	N.E.	.....	Clear; cloudy.
10	33	41	40	38	S.E.	S.W.	W.	1	Rain—cloudy; began to rain 6 A. M., end 6 P. M.
11	38	42	23	34½	N.W.	W.	N.W.	.....	Clear.
12	23	40	35	32½	S.W.	S.W.	S.W.	.....	Clear.
13	39	45	25	35½	S.W.	W.	N.W.	.....	Clear.
14	15	24	14	17½	N.W.	W.	W.	.....	Clear.
15	12	22	16	16½	S.E.	N.	W.	.....	Cloudy; clear; began to snow 8 A. M., ended 6
16	6	30	25	20½	W.	S.W.	S.W.	.....	[P. M.—½ inch.
17	20	35	28	27½	W.	N.E.	E.	.....	Clear.
18	23	35	30	30½	E.	E.	N.E.	.....	Clear; cloudy.
19	32	42	39	37½	N.E.	N.E.	N.E.	1½	Rain; ended in the night.
20	37	48	43	42½	W.	W.	W.	.....	Cloudy; clear.
21	36	50	39	41½	W.	S.E.	S.E.	.....	Clear.
22	43	43	28	38	W.	W.	N.W.	.....	Cloudy; clear.
23	23	30	25	26	N.W.	W.	W.	.....	Cloudy; clear.
24	18	30	23	23½	W.	W.	N.W.	.....	Clear.
25	20	38	23	27	N.W.	S.W.	W.	.....	Cloudy; began to snow 8 A. M., end 12 noon—
26	23	36	29	29½	W.	W.	N.W.	.....	[½ inch fell.
27	27	37	25	29½	N.W.	N.W.	N.W.	.....	Clear.
28	25	35	26	28½	N.W.	N.E.	N.E.	.....	Cloudy. [began 8 A. M., end night—2 inches.
29	26	38	31	31½	N.E.	E.	E.	.....	Cloudy. [began 10 A. M., end 8 P. M.; snow
30	30	38	31	33	E.	E.	W.	.....	Snow began 8 A. M., end 10 A. M.—1 inch; rain
31	25	27	15	22½	W.	N.W.	N.W.	.....	Cloudy; clear.

\*5 inches Snow fell.

Monthly Mean, 30 18-31.

3½ inches Water fell.

HARRIET M. BAER.

### Reclaiming Old Orchards.

Eight years since I purchased, in a small town in Massachusetts, a farm consisting of about forty acres, and of a light sandy soil. On this farm was an orchard of about seventy trees, which the neighboring farmers thought entirely worthless. I had not thoroughly examined them at that time, but in the early part of April I made up my mind to try to reclaim the old orchard, although the trees were covered with moss and dead bark. Two-thirds of the top of the trees was dead, and several of them had large cavities in the trunk. However, I put the iron scraper to work, and took off all the moss and dead bark. I then scraped the butts of the trees until they became smooth; then trimmed the dead limbs; made a compost of clay, peat muck, oil soap, and green cow manure, mixed and stirred well with water, and used a common white-wash brush to wash the trunk of the tree with this preparation. (A tree may need two coats after being scraped.) I then spread thirty cords of peat muck and lime, mixed thoroughly; then ploughed the orchard with a large plough, which turned a furrow twelve inches deep. The result was that the sand, gravel and roots were turned up in abundance. When the plough brought up against a root, it was cut off six feet from the

tree, without regard to size. The man that followed the plough was ready with an axe to cut, and clear the rocks from the plough. When the ground was ploughed it was covered with roots, which had to be carted off, and the ground harrowed over.

The object in cutting off the roots, is to have new fibrous roots grow, which will give a vigor to the tree. The fibrous roots will start the same season. The young shoots will start slowly until the second growth. The next season the growth will be greater than that of young trees, and the fruit as fair as Western fruit.

The result of the experiment was, the first year I had but few apples; the next I carried to market one hundred bushels of the fairest of apples; the third—there being a heavy gale in the month of August, which blew off about sixty bushels—I gathered some twenty or thirty bushels for cider, and sold that same fall one hundred and forty dollars' worth of apples, after putting thirty bushels into the cellar for family use—not mentioning the quantity fed out to the cattle. This was the orchard that had not borne any to speak of for fifteen years previous to this time.—*Cor. Boston Cultivator.*

# The American Farmer.

Baltimore, February 1, 1861.

## TERMS OF THE AMERICAN FARMER.

Per Annum, \$1 in advance—6 copies for \$5—10 copies for \$8.

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THOS. B. LEWIS.

WORTHINGTON & LEWIS,

Publishers of the "American Farmer,"

CARROLL HALL, S. E. Corner Baltimore and

Calvert streets, Baltimore.

Mr. WM. C. LIPSCOMB, JR., is our Traveling Agent for Maryland and Virginia.

We beg to call the attention of our friends whose subscription may be now due to the fact. One of them wrote to us recently to know to whom, or how, he should pay. We say to all, the best way generally, is to enclose directly to us by mail, wrapping the money carefully in a small bit of paper, and sticking it to the inside of the letter. Let the remittance be in gold if possible. Dollar notes are always uncurrent here, and now are useless to us. Prompt payments from subscribers are especially needful for us now that it is almost impossible to collect from advertisers. We hope our friends will not overlook our pressing wants.

*Southern Planter.*—This well known and able monthly, published at Richmond, comes to us considerably improved in outward appearance. We observe that Professor Gilham, of the Virginia Military Institute, will be associated from this time with Dr. Williams in its editorial management. Prof. G. brings with him to his new labours a very high reputation as a writer on scientific agriculture, and will render, no doubt, very acceptable service to the numerous readers of this magazine. The *Planter* is published at Richmond—price \$2 per annum.

*The American Bee Journal.*—We have from A. M. Spangler & Co. the first number of a monthly periodical under the above title. The bees must be very busy to support an independent journal these hard times, but it is a rapidly growing interest. We wish it success.

*Southern Cultivator.*—D. Redmond, Esq., has bought out the interest of his former partner, Dr. W. L. Jones, and is now sole proprietor. Mr. Redmond will be aided in his editorial duties, as heretofore, by Rev. C. W. Howard. The *Cultivator* is one of our very best and most valued exchanges, and we heartily wish its proprietor the most ample success in his enterprise. It is published at Augusta, Ga.—price \$1 per annum.

*Maryland and Virginia Medical Journal.*—We have from the publishers the January number of this periodical. Judging from the list of editors and co-editors—some of the very first medical men in the two States—it must be a work which no member of the profession can dispense with. Publishers: C. S. Willett, Baltimore; West & Johnston, Richmond. Monthly—\$5 per annum. Address C. S. Willett, No. 10 North street, Baltimore.


*The New American Cyclopædia.*—We are indebted to the publishers, D. Appleton & Co., N. York, for volume XI of this valuable work. It runs from the word Macgillivray to Moxa.—Among the contributors to this volume are W. T. Walthall, Mobile, Alabama; T. A. Burke, Savannah, Ga.; Capt. George S. Blake, U. S. Naval Academy, Annapolis, Md.; John Esten Cooke, Richmond, Va.; Professor Henry, of the Smithsonian Institution; W. Gilmore Simms, Charleston, S. C.; J. T. Mason, Baltimore, Md.

*DeBow's Review.*—We are in regular receipt of the numbers of this able and always interesting Southern magazine. It deserves and no doubt has ample support at the hands of those who favour very strong Southern politics and Southern policy. We read the *Review* with pleasure and wish it ample success. Published at New Orleans and Washington—price \$5 per annum.

Dr. Morfit has sent us the following note for publication:

"In my paper, on Sombbrero Guano, published in your December number, I stated that Dr. Bickell was the first to make known the presence of common-phosphate-lime in Colombian Guano. This seems to be an error, as upon reference to the September number of the 'Farmer,' 1855, the credit belongs to Dr. Piggot."

*Transactions of Wisconsin State Agricultural Society, 1858-59.*—We are indebted to J. W. Hoyt, Esq., Secretary, for copy of these Transactions.

 We admit to our pages the communication of an esteemed correspondent on the all-absorbing topic of the day, because of the urgent pressing necessity for meeting *now* the question, "What are we of Maryland to do?" Our once glorious Union is gone. The day has come when we *must* look "to see what lies beyond." While we would say no word to hinder the labours of those who are seeking peace and re-union by satisfactory terms of adjustment, while we appreciate the immense importance of a true constitutional Union to Maryland above, perhaps, any other State, we leave this matter in the patriotic hands of those who have it in charge. But when they fail, let not our good old State be found drifted among rocks and shoals, because we will not believe so lamentable a fate awaits us. Let us rather, with strong arms and stout hearts, seize the helm and so direct her course that when the storm which rages now shall cease, she may take her way onward in the pleasant waters to which her honor and her true interests direct her.

We say for ourselves that we do not concur with our correspondent in a seeming reflection on the motives of the Governor in the course he has seen fit to pursue in this crisis, nor do we question the sincerity with which he avows himself a Southern man, in feeling as well as fact. But we do say that nothing could suit so well the designs of those who hope to hand the State over to a Northern Union, as the course of the Governor and his friends. They keep out of sight the misdeeds of the North, and express the utmost confidence in the disposition of the people to do us justice. They take the utmost pains to make the action of South Carolina and the seceding States hateful. They denounce as secessionists and disunionists all who would have the people of the State put in position to direct her policy. They glorify the "Union," as if the mere words, bereft of their former glorious meaning, implied all of temporal blessings we may hope for. Thus they would prepare the people for acquiescence in that Union, in which a "masterly inactivity" shall leave us, when Virginia and every other Southern State shall have taken her destiny into her own hands.

Holding as we do, with our friend, that if this nation is to be destroyed, the people of the North, "before Heaven and the world," shall be "adjudged guilty of the crime," we are not prepared to submit to the sad fate, which shall make us "*particeps criminis*." Let the landholders and slaveholders of the State take up the question "What are we of Maryland to do?" and

look into their own true hearts for an answer. Whatever they may think of the course she has taken, South Carolina will find there a warmer place than Massachusetts can ever have, and Virginia than Pennsylvania. A Union that will stand must be a Union of hearts.

### The Delaware Grape.

A Committee of the Cincinnati Horticultural Society composed of D. S. Mosher, R. Buchanan and J. E. Mathew, bear strong testimony to the value of the Delaware Grape. "We have been watching," they say, "the Delaware grape for three or four years very closely, and find that the vines stand the winter freezing and spring frosts better than the Catawba, equally exposed and unprotected. No rot or mildew has yet been discovered, and no falling of the leaves till the fruit is fully ripe, and it ripens three weeks earlier than the Catawba." They give eight reasons, as follows, for putting it at the head of the list of hardy grapes:

- "1st. Its superior quality for table use.
- 2d. It produces finer and richer wine.
- 3d. The vines stand the winter freezing better than the Catawba.
- 4th. It stands the spring frosts better.
- 5th. It is not damaged by mildew.
- 6th. The grapes never rot.
- 7th. No falling of the leaves until the grapes are ripe.
- 8th. The certainty of their growing and the general hardiness and healthiness of the vine."


### Early Wheat Seeding.

*To the Editors of the American Farmer:*

I am pleased to find another endorser to the value of early seeding, so near home as Mr. Hewlett. In 1839, I lectured to a class on Sam's Creek, D. W. Nail one of the attenders; Nov., 1839, I delivered a lecture at Frederick and at Hagerstown, and February, 1841, before the members of the Legislature. At each place I pressed the importance of seeding before the Equinox blow or rain, and gave my reason for seeding early, and particularly before the rain in September, after a drought. At every lecture I was met with the question, "how shall we escape the fly?" My reply was, feed the straw off in October and November, when the egg of the fly will be destroyed by the sheep, calves or cows—since which time I have added many proofs of the advantages of early seeding and eating off. Producing more and deeper roots, you escape rust and smut.

W. B.



 We have received a communication from Dr. P. B. Pendleton, of Louisa county, Va., with reference to an article published in our December number on a topic copied from another journal, viz: "Liming followed by Sorrel."—Dr. P. takes exception to our article as assuming for the Editor a degree of credit he is not entitled to, and as not according him full measure of justice. If our remarks challenged such a criticism, they misrepresented us, and we cheerfully give place to Dr. P.'s statement of the matter. The article in question referred to a discussion, which took place some six years ago in the pages of the *Farmer*, the occasion of which was an essay by Dr. Pendleton, republished in the *Farmer* from the *Southern Planter*, and commented on by its Editor. Assuming that we had not done him justice by a sufficiently distinct acknowledgment of his claims, Dr. P. says:

"The fact is—as you must know—the article of mine to which you make a sort of *passing allusion*, was first published, by order of the Executive Committee of the Virginia State Agricultural Society, in the *Southern Planter*, and some time afterwards you copied the same into the *American Farmer*, when, for the first time, as I understand it, you submitted a few very complimentary comments—illustrating and confirming the correctness of the positions therein taken by sundry facts and experiments which had come under your own observation—and cordially commending it to your readers as an "able expose" of the subject. If you ever wrote or published any thing on the subject beyond this, I am not aware of it.

In the article of mine no attempt was made, as I recollect, (I have not seen it for years,) to "question (as you intimate) several theories as to the effects of lime upon soils;" but it was attempted, in a concise but thorough manner, to examine and refute, by an array of chemical, physiological and agricultural facts and proofs, that could not be questioned, the popular dogma of Mr. Ruffin, of Virginia, that "*some soils are acid and cannot be improved without lime*"—and indeed, in that and in subsequent ones, in reply to Mr. R. and others, it was undertaken to demonstrate that, *acidity of the soil*—as Mr. Ruffin understood it—had nothing whatever to do with the growth of Sorrel; and I am gratified to know that these views—which I am sure were in no manner suggested by anything you may have ever published—have received the cordial approval of many intelligent, practical farmers, all over the country.

This, I think, Mr. Editor, is a fair statement of the whole matter, and I doubt not, upon mature reflection, you will be free to confess you have done me some injustice, and that, in any comments which you may feel justified in making in the premises, you will not fail to right yourself fully in this matter before the public.

P. B. PENDLETON.

Louisa Co., Va., Dec. 18, 1860."

We would willingly forego any further remark

on the subject, except that we think Dr. Pendleton does us somewhat more injustice than he supposes that we have done him, and that the just credit he claims only as a pleasant thing to enjoy, is to us as well useful as pleasant. And this is the apology we offer him, and others whose refined taste may be offended by too much apparent self-assertion in our pages, whether directly, or by publishing the commendations of our correspondents. Our editorial credit is a part of our stock in trade, and we must advertise ourselves sometimes as other trades-people do. We are working here for bread, and while modesty and humility are very fragrant plants, they trail upon the ground and are trampled under foot of men—they are not bread-producing plants. Your wheat and corn plants lift their heads on high, and shake and flaunt themselves, in the air, and the sun-light.

The offending paragraph in our article in December is as follows: "Some six years ago we called in question several theories as to the effect of lime upon soils, which had never been questioned before, except by one person, Dr. Pendleton, of Va., whose article we published at the same time."

Reading this paragraph carefully, we frankly acknowledge that it does not treat Dr. Pendleton with the consideration to which he is eminently entitled. His name should not have been mentioned perhaps, in connection with the discussion, in a "mere passing allusion," or without placing him distinctly in the front of the controversy, with a statement of the fact that his essay was first published by order of the Virginia State Agricultural Society some months before it was transferred to our columns. Our apology for the omission is, that it would have been from the purpose in hand. The point of the article was to show, that six years ago, when we commenced the discussion of the subject in the *Farmer*, there were very few persons who had the courage to controvert the dogma universally received, so far as the books and papers were concerned, that lime, by correcting the acid of the soil, prevented the growth of sorrel, whereas we find now two leading agricultural journals concurring in the assertion that "a year or two after lime has been sown on land, it produces a heavy growth of sorrel." Dr. P.'s name was drawn into a saving clause, only for the purpose of avoiding an undue assumption of the credit to which he was entitled as "a setter forth of strange doctrine."

But where is the "injustice" which Dr. Pendleton calls on us to "confess"? Is it in not ac-

knowledging his original authorship in the matter in question? So far from it, we gave him credit for more than he claims. As he says above, "no attempt was made to question, as you intimate, several theories, but to examine and refute, &c., the popular dogma of Mr. Ruffin, that *sorrel soils are acid and cannot be improved without lime.*" This is quite true, as we find by reference to Dr. P.'s essay. The "several" theories were called in question by ourselves alone, and in our imperfect recollection of the facts, to make sure of doing him no injustice, we gave him the credit of having controverted all, whereas he controverted but one.—We *did*, therefore, acknowledge his authorship of all he claims and more. Did we not also acknowledge priority of publication? Our very words were that these theories had "never been questioned *before*, except by Dr. Pendleton." The word "published" would have been more correctly written *re-published*, but this surely was not necessary to the explicit expression of priority made by the words "*before*" and "*except.*" We are not, therefore, convinced of having done Dr. Pendleton injustice, and cannot of course confess it.

But we think Dr. Pendleton has done us some injustice in the extremely moderate estimate he puts upon our "few comments," and he must pardon us if we bring our own claims into comparison with his, only "in the way of business," be it understood, as explained before.

Dr. P.'s Essay, as said above, was submitted to the Virginia State Agricultural Society, and as a matter of course the Society requested its publication in the agricultural journal of the State. It was the first time, so far as we know, that any of the principles in explanation of the action of Lime, as maintained by Mr. Ruffin in his essay on Calcareous Manures, had been controverted. In that essay he undertook—in opposition to Mr. Ruffin's dogma, "that sorrel soils are acid and cannot be improved without lime,"—"to demonstrate that acidity of soil had nothing to do with the growth of sorrel." It will be remembered that this essay was published in the November or December number of the *Southern Planter*, but if it received either commendation or comment from any source, we are not aware of it, and it slept as "in the tomb of the Capulets" until its republication in the *Farmer*, with our comments. Even Mr. Ruffin, whose opinions were assailed, was not until then moved to reply. "I had at first determined," he says, "to make no reply to the strictures," but "this article (Dr. P.'s) has been republished in the last

*American Farmer*, (February, 1855,) accompanied by another by the editor of that periodical, uniting in the strictures and presenting *other and more remarkable testimony* to support his designed refutation," &c. This is not said in depreciation of Dr. P.'s able essay, but to show that the part we took in the matter had the effect of bringing these topics into prominent notice in the journals, and of breaking up and unsettling commonly received and erroneous views. The discussion, so far as the editor was concerned, was taken up chiefly in controverting in two articles, a distinct proposition from that discussed in the essay, viz: that "sheep-sorrel, broom grass, and old field pine, indicate the absence of lime," and the inference growing out of this theory that the application of gypsum (sulphate of lime) was useless on such soils, because in the absence of lime, the *oxalic* acid by its greater affinity for lime than the *sulphuric*, would at once change the character of the application and make it of no effect. We shew from facts it was impossible to controvert, that lands full of acid plants had been constantly brought to a very high condition without any application of lime, and that on just such lands in certain sections, plaster had shown its most striking and marvellous effects. Besides this, we have repeatedly since taken occasion to bring the same points to notice. In July number, vol. XII, we published an editorial of three columns in review of an article in the *New England Farmer* coinciding with Mr. Ruffin's views. This article was copied into that paper with commendatory remarks, and into the *Southern Planter*, then edited by Mr. Frank Ruffin, who acknowledged that his own opinions had undergone a change since the first discussion on the point maintained by us, and cited, in confirmation of our views, the fact that the land from which he always got the best sample of wheat and which of course had plenty of lime, "never failed to produce a growth of sorrel when the clover did not take." A concurrence in the same views has been repeatedly expressed since by other leading journals.

We have gone thus far for the purpose of showing that our part in the discussion of these important questions, has been something more than that of a complimentary commentator on Dr. Pendleton's essay. Looking into the matter with a view to do him justice, we came to the conclusion it was necessary to claim justice for ourselves.

Carrots consume one hundred and ninety-nine pounds of lime to the acre, turnips but ninety pounds.—*Ez.*

### The Fork vs. the Spade—A Negro's Argument.

*To the Editor of the American Farmer:*

We read your article of the Fork against the Spade, with much interest and satisfaction; that the remarks are true, we know from actual observation. The article brought to our recollection an incident that happened last summer between ourselves and our old gardener, a very intelligent old negro, who has been raised in the family and is now about sixty years old. This old negro would not be emancipated for any consideration whatever, because, as he well remarks, he is at no trouble to provide himself with food and raiment, and when unable to wait upon himself, he knows that it is not only his master's duty, but his pleasure, to see that he is taken care of and medical assistance employed to attend him. But, like all of his race who are fed at their master's table, hates, cordially, those who they designate as "poor buckras." We sent Uncle Jack—on the occasion referred to—to fork up our dwarf pear orchard, and while he was so engaged we chanced to go where he was at work and found that he had only spaded a circle around each tree. We very kindly told him that was not the way we wished the work done, and took his forked spade to show him how to do the work, and commenced spading the ground in a straight line and soon came opposite to a tree and turned up ground, and along with it the broken roots of the tree. The roots had not fairly made their appearance before we were startled by a sudden exclamation from the old negro:

"Dare now! master is done ruinated de roots ob dat tree. Dat ain't de way to do de work, 'cause if you spade cross de roots, you squash some in de ground wen you prize wid de fork, and de odders is broke right in two. De right way to spade de trees, be to spade dem from de trees; jes go up to de tree, work back de way de roots grow, den de pints ob de fork jes dodges right round de roots widout hurting dem, and and you see, master, de little frizzles ob de roots hab de dirt shooked from dem, and den dey jes fall back into de soft sorrel and be covered very nice wid it, and in de consequence of de circumstances dey grows right along; but de way you work dem, master, you brokes de big roots and dat 'stroys all de little frizzles at de een, and de tree will dead, certain."

We immediately saw the good sense and sound philosophy of Jack's mode of working trees, and at the same time saw that a fork was the proper instrument with which to work them. We put

down the fork without saying another word, but the old negro broke out in a loud haw! haw! "Dare, I got master dis time, certain."

Jack's experience demonstrates the use of the fork in preference to the spade in working trees, as well as the preference of his manner of using the fork over all others, and is well worthy of being made public for the benefit of beginners. Trees cultivated in this mode with the fork not only preserves the roots intact, but at the same time keeps the ground mellow up to the tree, in which the fibres will find an abundance of nutriment. The truth is, Jack is a man of observation and of fine practical common sense about many things. We are always willing to add to the store of our information, even if it is derived from a negro.

N. S. N.

*Columbia, South Carolina.*

### Maryland Catawba Wine.

BALTIMORE, Jan. 10, 1861.

*To the Editor of the American Farmer:*

Please receive, with our respects, a sample of Maryland Catawba Wine, from the vineyard of Major Giddings, at "Severn Side," near Annapolis, who has now 30,000 vines in successful cultivation, which we submit as an evidence of what can be produced in our State.

Yours truly, &c.,

G. H. REESE & BROS.,

Tea Dealers and Grocers, 207 and 209 Pratt street.

With our thanks to Messrs. Reese & Bro. we can without hesitation commend this wine not only as a perfectly pure, unmixed grape wine, but very superior to ordinary samples of still Catawba.—EDITOR.

U. S. AGRICULTURAL SOCIETY.—We find very meagre accounts of the proceedings of this Society in January. Wm. B. Hubbard, of Columbus, Ohio, was made President; B. Perley Poore, Secretary, and B. B. French, Treasurer. The Society determined, wisely we think, to discontinue their itinerant exhibitions.

FEEDING HOGS.—It is suggested in the *Rural American*, that the usual process of feeding pumpkins, potatoes, and other bulky substances, for several weeks before they are fed on heavier food, is unphilosophical; as the more bulky food tends to enlarge the stomach and digestive organs, so that from mere habit they eat a larger amount of the more nutritious food than the system requires—more than can be digested, and more than they otherwise would do.

### What are we of Maryland to Do?

SEVERN SIDE, A. A. Co., Jan. 15, 1861.

To the Editor of the American Farmer:

MY DEAR SIR: In your paper for the current month, I find myself kindly invited to re-enter your *lists*, (excuse me! your *pages*), and I would cheerfully do so if in the poorly provided *arsenal* (your pardon again!—storehouse) of my mind I could find suitable *weapons*—I mean thoughts—with which to *equip*—ah, per Bacco! it is impossible. You perceive the difficulty, Mr. Editor? The “impending crisis,” the “irrepressible conflict” pervade all bosoms, and now tinge all tongues and pens. I fear that I shall be unable to tune my reed to the soft and pleasing strain of “*Pastorum Musam*,” and certainly I desire not to be *instrumental* in startling the Bucolic genius supposed to preside over the affairs of your office, by invading its precincts with the martial and resounding blast of “*Arma, virumque cano*.” Other correspondents of the “Farmer” will, I hope, be more successful in coercing their seceding thoughts into acceptable articles. It is probable that some of them have not shared in “the eccentric movements” to which Seward refers in his recent oration on the Union; and hence need not wait the “one, two, or three years” required by an excited mind to regain its poise. The gentleman (incognito) to whose special call upon me you are indebted for this infliction, I am sure will not consult the moon ere he again takes up his pen: nor can I believe that he is one of that vast multitude who find it “easier to teach twenty what were good to be done, than be one of the twenty to follow his own teaching.” By the way, his neighborhood is not peculiar in its adherence to the lunar system of farming. But in view of the prevailing lunacy of the times, let us deal gently with that mild type of it which exists among the brethren.

Let me say for myself, that I have not been waiting the advent of that convenient season, to which you refer, before resuming my intercourse with the “Farmer”—but during the past year I have given but little attention to agricultural affairs—and moreover, I have long been persuaded that my writing (like Gratiانو's talking) contained “an infinite deal of *nothing*.” Then, again, I have heard that there is such a thing as coming before one is called; an offence, however, not very seriously regarded in this age, so infected with the *cacoethes scribendi*.

How many thousands of pens have, since the late election, continued to toil at the task of saving the American Union, though the labor

received less encouragement than even that of Sisyphus! In the extreme South, however, the effort has at length been abandoned. Here, in the Border States, are many who (to judge from their diluted prescriptions) appear not to realize the fact that Uncle Sam is really a very sick man. They do not believe that the Union has been “sliding” (to quote one of its arch-enemies, Gov. Banks) for several years. Some of them are so fully convinced of the immortality of the Federal power, that, meteor-like, it will continue to blaze on their retinas long after it has been swallow'd up in darkness. This class of Southern gentlemen will of course continue to ply the pen, and hold fast to their faith in petitions, appeals and remonstrances as the only effectual means of restoring the disrupted Union. Show them that already “our Eagle's flight is literally out of sight,” and they reply, “O don't be uneasy: he will return presently with an olive-branch in his beak.”

Look we now to the North, Mr. Editor, and let us see if the men who, before Heaven and the world, will be adjudged guilty of the great crime of destroying this nation; let us see if they have any remedy for the crisis. Yes; they have one, and one only. Like the *prepared glue* of the world-renown'd Spaulding, it is warranted to mend an alphabet of national troubles. It is simply a mixture of injustice and violence, called *coercion*—to be applied with the point of a sword or bayonet; one of which I suppose will accompany each bottle. Henceforth who will doubt that the hair of the dog is good for the bite!

But seriously—was there ever such madness? I know that in past and less enlightened ages, whole nations have been brought to fix their minds on one idea, and run wild in its pursuit. Millions of people have become simultaneously impressed with the same whim. Thus, the possession of the Holy Sepulchre; the philosopher's stone; witchcraft; even the cultivation of tulips and *morus-multicaulis*, have each in turn crazed the brains of thousands. But in the great history of human folly, (which Porson once jestingly said he would write in 500 volumes,) there will be no chapter so monstrous and incredible as that which records the attempted conquest of fifteen sovereign States, because they decline to accept a fanatical dogma from eighteen others, and simply desire to be left in the peaceful enjoyment of their opinions and property. The success of the Northern lunatics—like that of the man who undertook to shear the wolf—will be worthy of the attempt. A crusade or rather *negro-raïd*, preached by such men as Greeley and



Beecher, will not be likely to obtain many volunteers among Democrats and other sound-thinking men. Nor can I yet think there are any whose Federalism is so intense that they would have the Government (in imitation of the tyrant Bomba) batter down its own cities.

But the great question of our own political fate is now pressing hard upon us all. What are we of Maryland to do? Our Governor and many of our purest and truest citizens have adopted the Fabian policy—which in an ordinary crisis would perhaps be well enough, if under cover of it any useful preparations were being made. But as we do not hear of anything being done at Annapolis, I cannot resist the conclusion that our Executive Cunctator has wisely *insured the State* in some responsible Northern office. Such a *policy* against loss or damage, certainly costs less than patent breech-loaders, &c.: but I am free to say that for the purpose of State-defence I would prefer the latter.

I shall not presume to ask your attention to the dead issues of the past. Let me urge your readers to gaze intently and solely upon the living and portentous present, and decide promptly upon their future action. I pretend not to statesmanship, Mr. Editor, and years ago I ceased even to attend political meetings. But to my feeble vision and from the level stand-point of private citizenship, there is left but one course for Maryland, as a Southern State, to pursue. It is clearly indicated by her dearest interests, and it is illumed by honor and justice from one end to the other. It may be hazardous, but the peril is all around us, and we must summon reason and firmness to combat it. When the prairies are on fire, and the hunter finds himself suddenly encircled by a red horizon of rushing and roaring flame, what is his course? Does he "keep quiet," or does he vainly attempt to fly before the bounding and destroying element? He does neither: but with a masterly activity he sets fire to the dry grass at his feet—when, lo! the same agency which had previously threatened his destruction, rapidly opens for him a track of safety—black, crisp and scorching it may be, but nevertheless, beside God, his only hope of deliverance.

But pardon me, sir, for engaging you in this political chat. Who can talk or write of vineyards and orchards now! What boots it which field should go in grass, or corn, or tobacco next spring, when ere then (like the English youth in the days of warlike Harry) we may have "to sell the pasture to buy the horse." When our former happy and piping times shall return to

the land, it will afford me pleasure to address you in a strain more in accord with your journal. Till then I bid the Old Pioneer adieu.

L. G.

### True Temperance Reform.

To the Editor of the American Farmer:

Permit me to ask of you the favor of transferring to your columns an article from the last Patent Office Report, which I think will be the means of doing more good for the country and saving more money than would pay for all the agricultural reports that have ever been issued by the Patent Office. I refer to the article by Dr. Thomas Antisell on the quantity of tartaric acid in American grapes—wherein he shows that there is no true wine except that which is made from the grape—the which, by the peculiar combinations in the juice, "all the tartaric acid is deposited in the barrels, as alcohol is formed in the wine, giving it a superior healthfulness over all domestic wines made from any of the other pulpy fruits, all of which contain citric or malic acids, which are soluble not only in the fresh juice, but also in the fermented wine, which pass into the stomach, causes acidity and derangement of that organ,"—consequently however pleasant and palatable any of these so-called "domestic wines" may be, they never can become a popular national drink, because they either pall on the appetite after a while, or else by their irritation of the coats of the stomach, create a desire for the stronger distilled drinks, resulting in drunkenness—and it has been on account of ignorance of this remarkable difference that during the zeal of the temperance reformation, "true wine" has come to be classed with all those other beverages that cause such a thirst for intoxicating drinks, and Dr. Antisell truly remarks, "*the real superiority of the wine of the grape over the fermented juice of other fruits, depends not on fancy nor an uneducated taste, but on the production of an alcoholic liquid not containing within it substances injurious to digestion.*"

Fanatics and enthusiasts may misquote the Holy Bible, and in their vehemence against wine as against alcohol, may say "Touch not, taste not, handle not," but it is a *total misapplication* of the sacred text. The holy Author of that divine command, and the maker of every good thing and the giver of every perfect gift, so far from discountenancing its use, saw best to *create* several barrels of *good wine*, to add to the festivities of a marriage feast. I would say, then, spread it far and near, let every advocate of true temperance reformation urge the planting of the



vine, not only for its delightful fruit—which can be had in season so long and is dried so readily—but for its invigorating juice, which, “while it inspirits the youth to all that is fair, good, moral and grand, it stimulates the man in his labor and occupation, and makes him a brave husband, father and citizen, and brightens the evening of age.” We want a national drink; the habits and sociability of our people demand it; the cause of temperance, religion and mental activity demand it—and where else shall we look for it than in that which was blessed by the founder of the church on earth and appointed to be used by every one of his sincere followers, in the most devout act of worship, throughout all time.

We may feel assured that it was not a mere passing remark when the inspired penman says, “*destroy it not, for there is a blessing in it.*” Nor was it for any unworthy reason that our blessed Saviour passed by all the majestic trees of the forest, and fruit-bearing trees of the orchard, and selected as the emblem of his own glorious character the lowly vine, and his faithful disciples as the fruitful branches.

Yours, &c.,

A. V. D.

We hope to give the article from Patent Office Report in our next.—*Editor.*

### Evergreens.

At this season, when deciduous trees are all brown and leafless, the value of evergreens for protection or ornament is most apparent, and the importance of planting them most fully realized. Scarcely a dwelling in the country but has some exposed side or corner which a row, perhaps a double row, or cluster of thick-branched evergreens would greatly shield from sweeping winds, and, at the same time, serve the purpose of an elegant ornament to house and grounds. As the time when the need of anything is most pressing is generally the best time to calculate the ways of supplying it, it is proposed that we consider now, in winter, how to dispose our evergreen defences so as best to answer the ends of beauty and utility.

In the first place, nothing looks more stiff and ungraceful than to see evergreens all of one variety planted in a single straight line along the fence, parallel with the front of the house, especially if the yard be so narrow as to admit but one row of trees. Evergreens of the same kind are so uniform in their growth that if set in a row, they present a much more monotonous appearance than an equal number of maples or elms disposed in the same manner. But if they

are to be placed in a row in front of the house, and there is to be a line of other trees also, by all means plant the maples and other similar large-growing trees next the fence, and the evergreens inside. As a rule, it is better taste to have the smallest trees nearest the house. Again, if you plant double or triple rows of evergreens, avoid placing the trees in the several rows exactly opposite each other, but rather so that a tree in any row shall stand opposite a point midway between two trees in the next row. This makes a denser shield against the wind, and produces a much better effect.

But, whether your evergreens are to stand in rows, or groups, or singly, interspersed with other trees, be sure to give them room enough to spread out their branches as widely as nature intended. An evergreen, trimmed up so as to leave the body bare to the height of six or eight feet, is robbed of more than half its beauty. It should send out branches immediately above ground, and when allowed to grow thus, the lower limbs in time cover quite a large surface. One of the evils of planting evergreens near a fence is, that after a few years the longest limbs, those next the ground, must be removed; then, after growing a while longer, another row of branches around the tree needs to be taken off, and so on till the lowest limbs are above the top of the fence.

Perhaps the best, as well as cheapest protection for a garden, is a fine belt of evergreens along the side or sides most exposed to cold winter winds. Some of the most rapid growing varieties, like the Norway Spruce, would, in a few years after planting, attain sufficient size to be of considerable use. Tender varieties of the peach, grape, raspberry, &c., would doubtless be greatly benefitted by such a screen, while its presence would add a noble and striking ornament to the finest garden, besides attracting hosts of birds to destroy noxious insects and make the region vocal with their music. Indeed, some specimens of the different varieties of pines, firs, spruces, &c., arranged in handsome form, would, of themselves, make a charming winter garden. The rarest flowers cannot exceed in beauty and interest a collection of this sort, even in summer; and, especially when the snows of winter gather on their branches in such diversity of curious but always graceful shapes, the figures of the snow-blossoms varying according to the forms of the leaves and twigs they grow on, they present to the sight objects of surpassing loveliness.

—*Rural New-Yorker.*

## Statement of the Weather in Annapolis for the Year 1860.

ANAPOLIS, Maryland, Jan. 9, 1861.

To the Editor of the American Farmer :

DEAR SIR: By request of some of your subscribers, I forward you a statement of the weather in Annapolis for the year 1860, copied from my Meteorological Register for the Smithsonian Institution—should you consider it worth publication.

Very respectfully,

WILLIAM R. GOODMAN.

Mean Monthly Temperature, Amount of Rain and melted Snow, in inches and hundredths, for the year 1860—Annapolis, Md.—Lat. 38° 58' N., Long. 76° 29' W.

MONTH.	Temperature.	Maxima for Month.	Minima.	Variation.	MONTH.	Rain.
January .....	33.72	63°	1°	62°	January .....	3.53
February.....	33.20	70°	3°	67°	February.....	2.99
March.....	44.91	69°	26°	43°	March .....	1.39
April.....	51.13	82½°	29°	53½°	April.....	2.91
May .....	65.13	90°	41°	49°	May .....	10.45
June.....	70.18	94°	61°	33°	June.....	4.42
July.....	76.19	94°	55½°	38½°	July.....	3.30
August.....	75.12	92°	53½°	38½°	August.....	3.61
September.....	65.78	92½°	49°	43°	September.....	4.94
October.....	56.95	79°	33°	46°	October.....	7.30
November.....	46.30	74°	14½°	59½°	November.....	2.70
December.....	33.25	48°	14°	34°	December.....	3.28
Mean for year.....	54.32				Am't of Rain for year..	50.82

Rain fell 156 days, on some days amounting only to a sprinkle. 70 days the sky clear throughout the day; 59 days the sky entirely overcast.

The coldest day, January 2d—Mean 9½°.

The warmest day, June 29th—Mean 85½°.

Maximum of Temperature, 94°, and occurred at 12 M., June 29th and July 19th.

Minimum of Temperature, 1°, do. at 7 A. M., January 3d.

Variation..... 93°

Maximum Barometer, corrected for temperature, 30.62, and occurred at 7 A. M. January 6th.

Minimum do. do. do. 29.27, do. at 9 P. M. February 18th.

Variation..... 1.36.

Latest frost in Spring, April 26th. First frost in Autumn, November 22d. Period without frost 209 days.

Mean Temperature of Winter.....	34.35
Do. do. Spring.....	53.72
Do. do. Summer.....	73.83
Do. do. Autumn.....	66.34

	Mean Temperature.	Amount of Rain.
1857.....	52.34.....	51.64
1858.....	54.48.....	38.59
1859.....	54.30.....	51.45

## Subsoiling.

The subsoil plough is now becoming one of the most important implements upon the farm. It is used to run in the bottom of the furrow before the potato is dropped, to loosen the earth under the seed, to admit the air and permit the surplus water to sink; and after the potatoes are up, a one-horse subsoil plough is run between the rows; and when properly done, it is equal to trenching with a spade. It is also run between the rows of corn when the corn is about four inches high. This will lift the soil slightly and also the young corn plants, but will not separate the particles of earth from the roots. This will be a more thorough disturbance of the soil than a dozen hoeings, and will permit the corn roots to descend in search of food. In

raising carrots, beets and turnips in heavy ground it is almost indispensable. The plough now most approved is the lifting subsoil. The sole of this plough is something like a spear placed flat on the ground, point forward, with its lower side slightly concave. It is a gradually inclined plane from the point backwards. This is fastened to the beam by two standards with sharp cutting edges. It lifts the soil but one inch, and requires the least power to move it through the earth, at the same time pulverizing the soil as much as spading to the same depth. It may, perhaps, more properly be called the "mole plough," as it works like the mole, under the surface of the earth. No good farmer can dispense with it. They should have the sizes for one or two horses.—E. W. Stewart's Address at the Erie County Fair.

[For the American Farmer.]

**"Treatment of Muck."**

My attention was attracted by an article in the last number of the *Farmer* under the above caption, the sentiment of which purports to have emanated from the distinguished editor of the *American Agriculturist*.

It is recommended to use *muck* for "bedding cattle," claiming for it these characteristics of a "good bed," viz: "dryness, softness and cleanliness"—another might have been added that would have been quite as popular, that is, that it is a good absorbent. More than ten years' experience in the use of muck, during which period I handled and experimented with, in different ways, thousands of loads, has satisfied me that muck does not, unless artificially prepared, possess but one of the properties claimed for it—that is "softness."

It is impracticable to obtain it in a dry state, without drying it by artificial means. The economy of drying it for this purpose, I leave without comment. Next in order, its "softness"—it is soft enough. Lastly, its "cleanliness." If wet muck is *cleanly* in the opinion of the writer of the article alluded to, I must be allowed to differ with him. I know of no substance that has been recommended for bedding for cattle that is more *filthy*. I never used it in my stables, but I have hauled large quantities into my barn-yard, and spread it under the cattle sheds, with which my experience was very unsatisfactory, so much so, that I abandoned this mode of treating muck and resorted to others, one after another, carefully noting the result, until I finally decided that those which I shall hereafter describe are by far the most economical.

If any portion of muck should, by very favorable circumstances, become dry, it will be so light that it will, when stirred, float about the stable and feeding passages, and finally be deposited in the form of a black dust on the hay and in the mangers, whence it will be removed generally by the animals eating it with their food. This will certainly not be called *cleanly*. If it is already moist when applied as bedding, and is used in the quantity recommended, viz: "a half cord to the animal" at a time, (which would cover the stall floor to the depth of at least two feet, and above the height of cattle mangers ordinarily, into which it will fall and thus get mixed with the food,) it would produce a state of affairs unprecedented in stable economy. It is also recommended that this *soft* mattress, of most liberal dimensions, (especially in

its thickness,) should be changed or renewed semi-monthly.

Allowing the urinary excretions to be but three gallons for 24 hours, for each animal, when continued for 15 days, the quantity of moisture added will safely provide for any lack of "softness," and what might have been called a "bed" two weeks previous, has now become a "wallow" or mire. It is claimed that there is advantage in the heat of the animal imparted to the muck on which it lies. If this be true, I confess I cannot see how. I am aware, however, that when a bed of the character of that above described has been used for a week or more, the animals will, when they can endure standing no longer, lie down for a while in the mire and by so doing their warmth will throw off rapidly the putrid odors from the putrescent mass in which they lie, thus more thoroughly charging the atmosphere with noxious qualities, in which it was probably not previously deficient. The hair of the animal will also be thoroughly saturated with the filth in which he has been compelled to lie, which will gradually evaporate and thus perpetuate the supply of impure vapor to the atmosphere of the stable, as long and as effectually as could well be done by any other process. In case this new mode of bedding stables were adopted in dairy stables, what would be the condition of the cows? Worse, if possible, than that described as existing in the slop-feeding stables of New York and Brooklyn.

The mode of managing *muck* that I shall recommend, will be found less objectionable and more profitable than that to which I have alluded. Haul it out of the pit at the season of the year when it contains the least amount of water. Deposit it near the pit on a dry knoll, if practicable; if not, on the slope of a hill, ploughing a furrow near it on the upper side of it, in such direction as will prevent the water from adjacent higher ground running under it to be absorbed by it. Make the bed of it not more than two feet in depth and level on the top—then top-dress it with fresh burned lime in the proportion of one of lime to fifteen of the muck, and allow the bed to lie with the lime on it six or eight months; then turn it, mixing the lime thoroughly through the muck, and trim up the heap in a shape that will shed off the rain, and let it lie thus for two or three months, when it will be in a fit state for use as a top-dressing. If applied on wheat land at seeding time as a top-dressing, or on grass land in autumn at the rate of fifteen cords per acre, it will be found a remunerative application.

Another mode which I have found very excellent when the arrangement of the stable is such that it is practicable, is to collect the urine from the stable into a covered tank, having deposited the muck as described in the use of lime, apply five gallons of the undiluted urine to each cord of the muck and manipulate as in the use of the lime. An addition of a half bushel of common salt to the cord of muck, if it has been taken from fresh water deposit, will also be found beneficial.

My experience has satisfied me that it is too expensive to be profitable to haul the muck to the stable yard and mix it with the yard manure, and haul all again to the fields; besides, it is a practice so filthy as to be loathsome to a humane, tidy farmer, to compel his farm stock to wade through deep beds of muck and manure all winter, or when they are turned into the yard to get a snuff of pure air.

This mode of hauling to the yard—taking into the account the great amount of rain water that must be unavoidably carted both with the muck to the yard and with the compost from the yard—will be found, if carefully investigated, a very expensive business, such as none would attempt when the cost is carefully taken into the account.

J. WILKINSON,

Rural Architect and Landscape Gardener,  
BALTIMORE, Md.

### Hogs—Economy of Keeping Them.

That breed of hogs is best which will yield the most good bacon, or middling, hams and shoulders, for the food consumed. The Pennsylvania Chester county hog has good size, with comparatively small head, ears and legs; is quiet, and therefore takes on flesh and fat at a rapid rate. But you may find in your own district a fair breed of hogs—one that is thrifty, small boned, and adapted to your climate and circumstances. Better keeping will at once improve this stock on your plantation; and if you desire to have the best swine in your State, place no dependence on a crop so uncertain as mast, although it may be used when nature sends it; but grow acres of red clover, ground peas, English peas, and Southern peas, and acres of oats and rye for hogs to eat in the field.

Hogs turned into patches of sweet potatoes or yams, give cheap meat, because these nutritious tubers can be raised in quantities at a small cost, where they are not harvested. Mr. David Dickson feeds a great many negroes, young and old, with a plenty of meat, and then has several

thousand dollars' worth to sell. His 800 acres of peas grown with corn, struck us as giving his land much valuable manure, as well as his smoke house perhaps twice as much bacon as his servants can eat. We saw on his place a field of oats judged to yield some forty bushels to the acre, that had been eaten off, and cut for stock, whose manure would make it good for a large crop of rye for early feeding.

If you have any wish or purpose to raise either corn, cotton or meat at a small expense hereafter, remember that the manure obtained and saved from a bushel of corn or peas, is worth fall half the price of a bushel of corn for making any kind of meat, whether pork, beef, or mutton. The droppings of fattening hogs, cattle or sheep, will certainly make cheap grain on the land where they are fed and fattened. All must see that it costs no more to fence, plough, plant and tend an acre of ground that will yield sixty bushels of corn than one that will produce only six bushels. Now, where the object is to get good meat, and that with greatest abundance at the minimum cost, hogs, or cattle, or both, may gather these sixty bushels of grain, and leave fertilizing material enough on the ground to make an equal crop next year. In this way, the sixty bushels of corn will not cost five dollars; while the land will grow richer instead of poorer, because corn, as well as peas, old field pines and broomsedge, draws largely on air and water for its elements of nutrition. All fat and tallow are nothing but air and water, and in one hundred pounds of the best lean flesh or muscle, there are seventy-five pounds of water that may be dried out; and over seventy-five per cent. of what is left is carbon, the elements of water, in an organized form. Why then will not all our agricultural friends study the art of producing cheap meat and cheap fertilizers on their own plantations? Friends, if you permit your hogs and other stock to drop their manure in the woods, in swamps or out ranges this winter, how much of this needful food of plants will your corn or cotton fields receive in the growth of your next crops? Your fundamental error consists in not duly appreciating the value of the every-day droppings of your domestic animals. By losing these you are forced to impoverish your cultivated acres, and give a great deal of hard work for a little corn, or a few bales of cotton; and finally, you are compelled to leave the old homestead for a new country. All this comes from the supreme folly of neglecting to feed the land that feeds you. This error must be corrected.—  
*Field and Fireside.*

[For the American Farmer.]

### Which is the Best Breed of Fowls for Farmers?

The domestic fowls seem to have been known to man from a very early period; of their origin there is little definitely known. Abel, the first shepherd of whom we have any account, is supposed to have been the first to keep fowls. To the male the privilege was given of reclaiming St. Peter when he denied his Saviour. It is very certain that fowls have been, next to the dog, the constant attendants upon man in all his migrations. This genus embraces some of the most beautiful birds in existence, and the most useful and valuable to the human family. There are ten distinct species; two have remained wild and eight have been domesticated in the various quarters of the globe. Six are natives of Asia, one of Oceanica, three of Europe. The St. Jago fowl is a native of Sumatra, and found wild in the forests, and also in the western part of Java.

**Jungle Fowls.**—These magnificent birds inhabit the jungles and the large forests of India. The domestic species are beautiful; some have their feathers curiously formed. This I can say of the Frizzled Fowls, natives of Japan, their feathers pointing forward or turned the wrong way; the American climate will not suit them.

**Silk Fowls.**—Natives of China, India and Japan—shaped like the Shanghai; has the whole body covered with soft down, the webs of which are so separated as to appear like hairs or glossy silk; the skin purplish; the membrane that covers the bones dark purple; when boiled the bones become black. If this fowl is crossed with any other breed, the cross becomes hairy, also the bones black. The cold of our climate is unfavorable to them.

**Rumkin Fowls.**—Natives of the Island of Ceylon; has no tail; the vertebra is deficient. They suit our climate and raise their young well—good layers.

**Bantam.**—A native of Bantam, India. Plumage white; feathered on the legs out to the end of the toe; very small; good mothers; good layers, and agree with our climate.

**Crested Fowls.**—Natives of Normandy. Plumage exceedingly beautiful; body, neck and tail satin black, with metallic tints of green; crest white. The crest of the cock is composed of straight feathers; they grow from the centre of the crown and fall over outside, forming a circular crest. These are valuable as layers, but the cold affects them and they soon inhale the roup—in fact our climate will not suit them.

**Dorking Fowls.**—Natives of Dorking, Eng-

land. Plumage pure white; a very delicate species. These birds have a double hind toe, so that they have five toes instead of four. This is the much prized fowl of England, but they will not suit our climate, they being too delicate.

**Black Spanish Fowls**—Natives of the Netherlands. Plumage rich satin metallic black, in the light of the sun reflecting their shades of bluish and greenish purple; face large; ear lobe pearly white. In that country they can be obtained now—birds of the greatest beauty as to form and feather, and of the highest value as regards quality and breed. Why they are called Spanish puzzles me. Their large comb and gills become frosted, and they soon inhale the swelled head, and mortality ends the matter.

**Shanghai.**—A native of China. Plumage buff. The most gigantic of all fowls. They are great eaters; bad mothers; their meat coarse; their young do not feather in time for early market, and in fact not fit for use until they are one year old, when they receive all their plumage, as no bird, either in the wild or domestic state, is in pure health while receiving their feathers. They agree well in our climate, but the richness of our corn makes them gouty, and they fall down in the legs.

**Game Fowls.**—Natives of Calcutta. Plumage dark red; black breast; head small, serpent-like; neck long and thin; legs dark slate; they are what the Arabian is among horses, king among fowls. His eyes sparkle with fire; when surrounded by his females he is full of animation.

And now, gentle reader, after breeding all of the above species of the domestic fowls, imported expressly and procured by an experienced breeder in England, I can say that, in my experience, their breeding in this country, for the sake of profit, will be useless, owing to our climate on birds from those warm countries. I have frequently been asked which is the best fowls for the farmer. I must say, with truth, the Game Fowls are the best for all purposes—for beauty, for laying, for health, suitability to our climate, raising more chickens, small eaters, better mothers, feather early, and come to the marketable state in early seasons. To prevent the fighting of the males, never cut their gills and comb. I never have tried any variety of the domestic fowls, such as the Brahma Pootras, Buck's County, Jersey Blues, and such like, they being only a variety and not a true species.

The domesticated families of the feathered creation seem, like the untamed tribes, inexorably confined within prescribed geographical bounds,



and incapable of propagation or growth beyond their original limits—while others still, though comparatively independent of climate, are nevertheless so specially fitted to certain conditions to satisfy their natural wants. If you cross them to make them acclimated, will you not introduce unhealthy stock or very delicate birds? I think you will. Here is another reason why fowls should not be crossed: for instance, a Shanghai with a Spanish; you degenerate the Shanghai and increase the Spanish; they will be medium in size; you lose the laying qualities of the Spanish. Will nature permit her work to be made better by man than the Creator has made in the production? They have a Divine law to carry out and no human power is capable of making a breed of fowls better than those intended for us. I must acknowledge they do mix now and always have done so, but they are the worse for that. Had they never mixed with each other, but kept pure in breeds, each breed in their own climate, they would lay more eggs, and raise more chickens than if they were crossed a thousand ways. But the Divine law is given to them to follow man in his widest wanderings, and make a part of his food, whether he dwells on a continent, an island, the sea, or the burning heat of the Torrid Zone.

They are like hot-house plants, subject to disease when exposed. This is the reason so much disease is among the delicate constitution of poultry. For instance, bring a plant, say a camellia from China—plant it out in the open ground—will the frost kill it? I think it will. Well, then, if a fowl which has been raised in or is a native of a warm country, is placed out in our climate, will the cold affect its constitution? I think it will. Well, then, if it is sick can it carry out nature's laws? I think not. I have obtained this knowledge by my own experience in breeding all the eight true and pure species of the domestic fowls.

J. JACOB BOWER.

### Effect of Depth of Soil on Vegetation.

The deeper a soil is, or can be made by good tillage, provided it contains the elements of fertility, the more productive it must become; not only by causing a large supply of actual food, but also by presenting an increased surface for the action of chemical forces to retain those valuable substances, which being in solution, would otherwise pass away in the subsoil, while though they might be retained, the roots could not get at them. The atmosphere penetrates more freely, warming and exciting the whole mass; the roots instead of merely throwing out laterally, and

creeping along just beneath the surface, as in shallow soils, push boldly out in all directions, in search of food, and thus strengthen the plant. The alluvial tracts so frequently found along our principal rivers, are all deep and very fertile; though generally dry, they seldom suffer from drought, owing to their powers of absorption, both from the air and subsoil.

Depth being so important, we should do all in our power to increase it by artificial means when required; as frequent ploughing at a uniform depth produces even in the deepest soils a hard bed, through which neither roots, air, nor moisture can readily penetrate; the use of the subsoil plough, once in three or four years, is strongly recommended. When the subsoil consists in stiff yellow clay, care must be taken not to bring up too much at once; for else, being sometimes of a poisonous nature, it might tend to injure the land for some length of time, until in fact, the oxygen of the air had affected the necessary chemical changes and sweetened the mass. Deep soils are much less injured by sudden changes of weather than shallow ones, for being open and friable, the rain-fall passes slowly through them, and after nourishing vegetation, by the moisture and ammonia that it leaves, disappears in the subsoil; and during a dry time, they maintain their moisture, owing to their powers of absorption and capillary attraction. Many of the most fertile loams resting upon a gravelly and very porous subsoil, owe their fertility to their depth.

The same rule holds good with soils resting on limestone; they are rich or poor, according to depth. Therefore it is evident that in farming, besides the mere routine of preparing the ground for the crop, we have the important business of deepening the ground to attend to. Draining, in all cases where the land requires it, will be found a most important assistant, lowering the water level to the bottom of the drains some three or four feet from the surface, enabling the atmosphere—that great fertilizer—to penetrate into the crevices, formerly filled with excess of moisture, and by diminishing the tenacity, lessening the difficulties, of deep cultivation.—*John Coleman's Prize Essay, (Eng.)*

SHOOKING HENS avoids the necessity of hen-yards and tight fences. Small woollen bags tied over their feet will answer every purpose, and they may be allowed their liberty all summer, and will lay better for it, and even the garden and field will be kept clean from many worms, bugs, flies, and other vermin that injure vegetation. But for their *scratching*, hens do little harm and much good on cultivated grounds.—*Ex.*

### Management of Manure.

A paper of much value was published in a late number of the *Journal of the Royal Agricultural Society of England*, having the following title: "On the Composition of Farm-yard Manure, and the changes which it undergoes on keeping under different circumstances. By Dr. Augustus Voelcker, Professor of Chemistry in the Royal Agricultural College, Cirencester."

A summary view of the main points of this paper, in connection with some remarks illustrating their correspondence with well established facts in practical agriculture, may interest our readers, although our restricted space obliges us to be very brief. Dr. Voelcker was engaged for more than a year in experiments on which his essay was in part based. Having described these experiments with particular minuteness, he presents, in conclusion, the most prominent points developed by his investigations. Among these are the following:

"1. Perfectly fresh farm-yard manure contains but a small proportion of free ammonia.

2. The nitrogen in fresh dung exists principally in the state of indissoluble nitrogenized matter.

3. The soluble organic and mineral constituents of dung are much more valuable fertilizers than the insoluble. Particular care, therefore, should be bestowed upon the preservation of the liquid excrements of animals.

4. Farm-yard manure, even in quite a fresh state, contains phosphate of lime, which is much more soluble than has hitherto been suspected.

5. The urine of the horse, cow and pig does not contain any appreciable quantity of phosphate of lime, whilst the drainings of dung heaps contain considerable quantities of this valuable fertilizer. The drainings of dung heaps, partly for this reason, are more valuable than the urine of our domestic animals, and therefore ought to be prevented by all available means from running to waste.

6. Well rotted dung contains little free ammonia, but a very much larger proportion of soluble organic and saline mineral matters than fresh manure.

7. Rotten dung is richer in nitrogen than fresh.

8. Weight for weight, rotten dung is more valuable than fresh.

9. In the fermentation of dung, a very considerable proportion of the organic matters in fresh manure is dissipated into the air in the form of carbonic and other gases.

10. Properly regulated, however, the ferment-

tation of dung is not attended with any great loss of nitrogen, nor of saline mineral matters.

11. During the fermentation of dung, ulmic, humic, and other organic acids are formed, as well as gypsum, which fix the ammonia generated in the decomposition of the nitrogenized constituents of dung.

12. During the fermentation of dung the phosphate of lime which it contains is rendered more soluble than in fresh manure.

13. In the interior and heated portions of manure heaps, ammonia is given off; but on passing into the external and cold layers of dung heaps, the free ammonia is retained in the heap.

14. Ammonia is not given off from the surface of well compressed dung heaps; but on turning manure heaps, it is wasted in appreciable quantities. Dung heaps, for this reason, should not be turned more frequently than absolutely necessary.

15. No advantage appears to result from carrying on the fermentation of dung too far, but every disadvantage.

16. Farm-yard manure becomes deteriorated in value when kept in heaps exposed to the weather; the more the longer it is kept.

17. The loss in manuring matters, which is incurred in keeping manure heaps exposed to the weather, is not so much due to the volatilization of ammonia, as to the removal of ammoniacal salts, soluble nitrogenized organic matters, and valuable mineral matters, by the rain which falls in the period during which the manure is kept.

18. If rain is excluded from dung heaps, or little rain falls at a time, the loss in ammonia is trifling, and no saline matters of course are removed, but if much rain falls, especially if it descends in heavy showers upon the dung heap, a serious loss in ammonia, soluble organic matters, phosphate of lime, and salts of potash, is incurred, and the manure becomes rapidly deteriorated in value, whilst, at the same time, it is diminished in weight."

Many of the above points deserve particular consideration. Some of the most important are, that in fresh manure, the nitrogen is chiefly in an insoluble state, (paragraph 2)—that rotted manure contains "a very much larger proportion of soluble organic and saline mineral matters than fresh manure, (paragraph 8)—and that "the soluble organic and mineral constituents of manure, are much more valuable fertilizers than the insoluble, (paragraph 3.) If these points are admitted, the advantage of the fermentation or decomposition of manures is demonstrated. The fermentation is necessary to increase the

quantity of soluble vegetable food. It is no argument against this, that in the way in which fermentation usually takes place, there is considerable loss of fertilizing matter, (paragraph 11,) for Dr. Voelcker immediately states, (paragraph 12,) that if the fermentation is "properly regulated, it is not attended with any great loss." It is only in the "heated portions of manure heaps" that ammonia is given off, (paragraph 15.) Care should be taken, therefore, that the process is not carried too far—that it does not run into a high temperature, and that the manure should be mixed with substances which will absorb any gases that may be evolved. If proper attention is given, there is no obstacle to the fermentation of manures in such a manner as to secure therefrom very important advantages.

The next point deserving special attention is, that manure heaps are greatly deteriorated in value by being exposed to much rain (paragraphs 18 and 19)—the elements of fertility being thus leached out. Who can estimate the immense loss which our farmers annually sustain from this cause? On a large proportion of the farms of the country the manure is drenched by all the rains of winter and early spring, and the soluble matters extracted are carried off, more or less, in streams.

We may observe in this connection, that Dr. Voelcker advises spreading manure on the land for which it is designed, rather than to allow it to remain in heaps. His reason for this is, that the further evolution of ammonia is stopped when the manure is spread, and the soluble matters are carried into the soil and retained.—Whether or not this practice can be adopted without waste, depends much on the situation or aspect of the field and the nature of the soil. On hill sides the manure would be liable to wash off, to some extent, and on sandy or gravelly soils it would soak away, and also be dissipated by the air. Dr. V. says:

"In the case of clay soils, which possess the power of retaining manuring matters, I have no hesitation to say the manure may be spread even six months before it is ploughed in, without losing any appreciable quantity of manuring matters. I am perfectly aware that, on stiff clay land, farm-yard manure, more especially long dung, when ploughed in before the frost sets in, exercises a most beneficial action by keeping the soil loose, and admitting the free access of frost, which pulverizes the land; and would, therefore, by no means recommend to leave the manure spread on the surface without ploughing it

in. All I wish to enforce is, that when no other choice is left but either to set up the manure in a heap in a corner of the field, or to spread it on the field, without ploughing it in directly, to adopt the latter plan."

But he, with good reason, recommends a different practice for light and sandy soils, "as such soils do not possess the power of retaining manuring matters in any marked degree." Here, he suggests, "to manure with *well fermented* dung, shortly before the crop intended to be grown is sown." It is well to observe the distinction made in regard to dry and light soils. We believe that every reliable experiment will bear out the correctness of Dr. V.'s suggestion, that for light, sandy soils, well-fermented manure is best, and that the nearer the time of putting in the crop it is applied, the greater are its effects.—*Boston Cultivator*.

### Salt and Its Offices.

Some modern agricultural writers have doubted the necessity of giving animals salt. The following remarks as to the effect of salt upon health, by Prof. Jas. F. Johnston, of Scotland, may be relished by those who still put salt in their own puddings, and allow their cattle a little now and then:

"The wild buffalo frequents the salt-licks of North-western America; the wild animals in the central parts of Southern Africa are a sure prey to the hunter, who conceals himself behind a salt spring; and our domestic cattle run peacefully to the hand that offers them a taste of this delicious luxury. From time immemorial it has been known that without salt man would miserably perish; and among horrible punishments, entailing certain death, that of feeding culprits on saltless food is said to have prevailed in barbarous times. Maggots and corruption are spoken of by ancient writers as the distressing symptoms which saltless food engenders; but no ancient or unchemical modern could explain how such sufferings arose. Now we know why the animal craves salt; why it suffers discomfort, and why it ultimately falls into disease if salt is for a time withheld. Upwards of half the saline matter of the blood (57 per cent.) consists of common salt; and as this is partly discharged every day through the skin and the kidneys, the necessity of continued supplies of it to the healthy body becomes sufficiently obvious. The bile also contains soda as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, therefore, and neither will the bile be able properly to assist the digestion, nor the cartilages to be built up again as fast as they naturally waste."

# AMERICAN FARMER.

## Wholesale Produce Market.

Prepared for the American Farmer by ELLICOTT & HEWES, Produce and Commission Merchants, 59 Exchange Place.

BALTIMORE, January 25, 1861.

**BUTTER.**—Ohio, in brls. and kegs, 11; Virginia and Pennsylvania, in kegs, 11 to 12½; Glades, 14 to 23; Roll, 14 to 18.

**BRESWAX.**—37 cts.

**CHEESE.**—Eastern 11½, Western 10½.

**DRIED FRUIT.**—Apples \$1.12½; Dried Peaches \$2.25.

**EGGS.**—In barrels, 15 cents per dozen.

**FEATHERS.**—47 to 48 cents for good Southern.

**LARD.**—Bril. 10½, kegs 11½, jars and other country packages, 12½.

**TALLOW.**—10 cents.

**WOOL.**—Unwashed, no sales.

## Baltimore Markets, Jan. 25.

**COTTON.**—The demand is fair.

Grades.	Upland.	Memphis and Gulf.
Low Middling.....	12½ a12½	12½ a13
Middling.....	12½ a13	13 a13½
Strict do.....	13 a13½	13½ a13½
Good do.....	13½ a14	14 a14½
Middling Fair.....	14½ a15	14½ a14½

**FISH.**—We quote prices as follows: Mackerel, \$7 for medium No. 3; \$9.50 for large No. 3. Alewives, \$4. Labrador Herrings, \$5 per barrel.

**FLOUR.**—We quote Howard street Super, \$5.50; Extra, \$6.00. City Mills Super, \$5.25; Extra, \$6.50. Family Flour, \$6.50 for the different brands; very choice \$8.

**Rye Flour and Corn Meal.**—We quote Rye Flour at \$4.25. Corn Meal at \$3.50 per bbl.

**Buckwheat Meal.**—\$2.25 to \$2.50 per 100 lbs.

**GRAIN.**—The receipts are light. Red Wheat, \$1.25 to \$1.30 for fair to prime. White Wheat, \$1.31 to \$1.45 for medium to fair; \$1.50 to \$1.55 for good to prime parcels.

**Corn.**—White. 67 to 71 cents; yellow, 63 to 65 cents.

**Oats.**—Virginia and Maryland, 34 to 36 cents. Pennsylvania, 35 to 37 cents.

**Rye.**—Maryland and Virginia, 75; Pennsylvania, 80 cents.

**Mill Feed.**—Brown stuff, 16; middlings, 30 cents per bushel.

**PROVISIONS.—Bacon.**—Shoulders, at 8½, and Sides at 10½ cents per lb.

**Bulk Meat.**—Shoulders 7½; Sides 9½ cents per lb.

**Pork.**—Mess, \$18.25; Prime, \$14; Rump, \$13.50.

**PEAS AND BEANS.**—Black-eyed Peas, 75 cents to \$1 per bushel. White Beans \$1.50 to \$1.70 per bushel.

**SEEDS.**—Clover seed, \$5.50. Timothy, \$2.25. Flaxseed, \$1.30 per bushel.

**POTATOES.**—Common, 50 to 60 cts.; White Merceus, 70 to 80 cents per bushel.

**ASHES.**—Pot and Pearl, \$5.25 per 100 lbs.

**TOBACCO.**—The stock on hand of Maryland is small—there is a demand for suitable qualities.

We continue to quote frosted Maryland Tobacco at \$2; ground leaf at \$3 to \$7; common at \$2.50 to \$3.50; middling, \$4 to \$4.50; good middling, \$5 to \$5.50; good leaf, \$6 to \$6.50; and fine at \$7 to \$12. Ohio Tobacco—inferior to good common at \$3 to \$4; red and spangled at \$5 to \$6.50; good and fine red spangled at \$7 to \$8, and good and fine yellow at \$9 to \$12. Kentucky Tobacco. We continue quotations, viz: common lugs at \$4.25 to \$4.75; good do. at \$5.25 to \$5.50; inferior leaf at \$5.75 to \$6.25; good do. at \$6.50 to \$7.00; fine at \$7.50 to \$9;

choice at \$10 to \$12; and rich heavy Kentucky at \$7 to \$12.50.

**GUANO AND OTHER FERTILISERS.**—Prices continue without change. We quote Peruvian at \$61 to \$62 per long ton, according to quantity—the latter being for a single ton and upwards. For less than a ton, at the rate of \$56 per ton of 2000 lbs.; California or Elide Guano, \$40 per long ton; Manipulated, \$47; Super-Phosphate, \$45; Mexican. A.A. \$20 to \$22; American Guano \$40 per ton of 2240 lbs.; Sombro, \$30 per long ton; Jobaboe Guano, \$50. Navas Guano, \$25 per ton. Ground Bones, \$27 per 2000 lbs. (packages extra.) Poudrette \$19 per ton in bulk. Plaster, \$1.25 per bri.

**HAY AND STRAW.**—Hay, \$14 to \$15 per ton. Rye Straw, \$15 to \$16 per ton.

**GINSENG.**—45 to 50 cents per lb.

**CATTLE MARKET, Jan. 23.**—Beef Cattle were in good supply again to-day, the offerings at the Scales reaching about 1,200 head, against 1,000 last week. The demand was fair, but prices were a shade lower than on last market day. The Cattle offered were disposed of as follows, viz: 550 head were driven to Philadelphia and N. York. 100 were left over unsold, and the remaining 750 head were taken by Baltimore butchers and packers, at prices ranging from \$3.75 to \$4.25, averaging \$3.25 per 100 lbs. gross, this figure being a decline of 12½ cts. on last week's average.

**HOGS.**—Hogs have been arriving rather more freely this month, but prices for them are well maintained and they are still selling at \$7.25 to \$7.75 per 100 lbs. net.

## NEW ADVERTISEMENTS.

Allen & Needles—Super-Phosphate Lime, &c.

Allen & Needles—Excrementum.

Cottingham & Harding—Dissolution of Copartnership.

Dugdale, Geo.—Baugh's Raw Bone Super-Phosphate of Lime.

Frost, E. C.—Seeds, Pits, &c.

Griscom, David J.—Evergreen Nursery.

Harding, Wm. H.—Maryland Agricultural Works.

Spangler & Co., A. M.—American Bee Journal.

Saul, John—Fruit and Ornamental Trees.

Saul, John—Garden and Flower Seeds.

Thorburn & Co., J. M.—Descriptive Catalogue.

Thorburn & Co., J. M.—Pear Seeds, &c.

Worthington & Lewis—Chester Pigs.

Worthington & Lewis—Alderneys.

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**ALLEN & NEEDLES'**  
IMPROVED STANDARD  
**Super-Phosphate of  
LIME,**

The old established article, in constant use by thousands of Farmers and Planters for a number of years past.

PRICE \$45 per 2000 lbs. ( $2\frac{1}{4}$  cents per lb.)

**GUANO.**

PERUVIAN. Received direct from the Government Stores. *Warranted genuine.*

ICHABOE. This is the old fashioned *Feathery Guano*, imported direct.

**ALLEN & NEEDLES'**  
**NEW  
Fertilizer.**

The low price and superior quality of this fertilizer is fast bringing it into general use.

PRICE \$30 per 2000 lbs. ( $1\frac{1}{2}$  cent per lb.)

**BONE DUST.**

Button-makers *fine Bone Dust* and GROUND BONES.

**LAND PLASTER.**

Warranted pure. In barrels.

A liberal deduction made to DEALERS on all the above articles.

N. B.—We have a large number of Diplomas for Premiums awarded by the various *Agricultural Societies*, which you are requested to call and examine.

**ALLEN & NEEDLES,**  
42 South Wharves and 41 South Water-st.,  
(First Store above Chestnut,)  
feb-3t PHILADELPHIA.

**Hancock's Warranted Superior Extra  
Early Peas**

And Premium Early York CABBAGE SEEDS, warranted superior to any in this country.

For sale by **ROGERS & GEST,**  
dec-3t No. 133 Market street, Philad.

**EXCREMENTUM**  
OR  
**PURE NIGHT SOIL**

Having been appointed by the manufacturers  
SOLE AGENTS

For the sale of the above article, we are now prepared to furnish it to FARMERS and DEALERS in such quantities as may be wanted.

*It is deodorised and packed in Tight Barrels.*

PRICE \$2.75 PER BARREL.

*A liberal deduction made for large purchases.*

This article must not be confounded with Poudrette, it being, as stated, simply the pure night soil, the great value of which is well known throughout the world.

Manufactured by THACKARA, SCHAFER & THACKARAY.

For sale only by

**ALLEN & NEEDLES,**  
No. 42 South Delaware Avenue, and  
41 South Water Street,  
1st door above Chestnut Street,  
feb-1-3t PHILADELPHIA.

**EVERGREEN NURSERY,**  
WOODBURRY, NEW JERSEY,



The subscriber offers for Spring planting a general assortment of

FRUIT, SHADE & ORNAMENTAL TREES, FLOWERING SHRUBS, VINES, ROOTS, &c., of superior quality and on very favorable terms.

Persons stocking Nurseries or having extensive grounds to improve, will be offered unusual inducements.

feb-3t DAVID J. GRISCOM.

**250,000 Grape Roots!!!**

Catawbas, 1 year old, \$15 per 1000, 2 year old, \$25; Isabellas, 1 year old, \$25 per 1000; Anna, Delaware, Diana, Concord, and sixty other varieties native, foreign Catawbas and Isabellas, superior owing to location, soil, &c., and bringing a much higher price with our vinters here. Terms liberal to dealers. Orders by mail satisfactorily filled.

Sandusky city, O. J. P. MERRIAM, AGENT,  
oct. n, f, m. ap, Sandusky city Nurseries.

**To Dealers in Garden Seeds.**

A full assortment of new crop imported and American GARDEN and FIELD SEEDS. For sale by **ROGERS & GEST,**  
dec-3t No. 133 Market street, Philad.